PROCEEDINGS

OF THE

MADRAS GOVERNMENT

IN THE

PUBLIC WORKS DEPARTMENT,

IRRIGATION BRANCH,

FOR

THE MONTH OF FEBRUARY 1888.

Printed by Authority.

MADRAS:
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1888.

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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

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1 Subjects.	2 Dates of Proceedings.	3 Date of Report to Secretary of State for India.	4 Numbers and Dates of previous Proceedings.
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1 Subjects.	2 Dates of Proceedings.	3 Date of Report to Secretary of State for India.	4 Numbers and Dates of previous Proceedings.
Periyár Project Works.—Estimates for the purchase of a theodolite with stand and two rock-drilling machines for use of the —, sanctioned	1888. 27th Feb. No. 137 I.	...	23rd Jan. 1888, No. 51 I. 30th Jan. 1888, No. 69 I.
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Acquisition of Land.—Orders regarding the acquisition of certain lands required for the improvements of Kakanallur channel in Ambásamudram taluk, Tinnevelly district.	29th Feb. No. 143 I.	...	......
Land.—Ordered that the notification for the acquisition of certain — required for the Kistna river left embankment in Bhadrirazupalem in Bezváda taluk, Kistna district, be published in the *Fort St. George Gazette.*	29th Feb. No. 144 I.	...	......
Land.—Revised notification for the acquisition of — required for the diversion of the Buckingham canal in the Chingleput district, ordered to be published in the *Fort St. George Gazette.*	29th Feb. No. 145 I.	...	11th Jan. 1888, No. 22 I.
Land.—The notification for the acquisition of — required for the excavation of a drain to join the Mustakafhan Kodu in Kolavennu, Bezváda taluk, ordered to be published in the *Fort St. George Gazette.*	29th Feb. No. 146 I.	...	......
Land.—Orders issued for the acquisition of — required for the improvement of the Vadava in the Tanjore taluk, Tanjore district.	29th Feb. No. 147 I.	...	......
Inspection Bungalow.—Estimate for constructing an — near the Korumpallem tank, Srívaikuntham anicut project, sanctioned.	29th Feb. No. 148 I.	...	......
Kurnool Canal.—Estimate for raising the right bank between 143rd and 148th mile of the —, sanctioned.	29th Feb. No. 149 I.	...	11th Aug. 1887, No. 492 I.

PUBLIC WORKS DEPARTMENT,

IRRIGATION BRANCH.

PROCEEDINGS OF THE MADRAS GOVERNMENT,

FOR THE MONTH OF FEBRUARY 1888.

Irrigation.
Account.

READ—the following papers :—

From Major S. C. CLARKE, R.E., Superintending Engineer, I Circle, to the Chief Engineer for Irrigation, dated Dowlaishweram, 14th April 1886, No. 181 G.D.

I have the honor to submit for sanction two estimates for the works noted below, the aggregate cost of which will fall below the original provision :—

Name of work.	Amount of estimate.	Amount provided in the project estimates.
	RS.	RS.
Regulating sluice to Jannada channel, Bank canal, Godávari Eastern division	350	500
Regulating sluice to Mulastanam channel, Bank canal, Godávari Eastern division	550	500
Total ...	900	1,000

Memorandum to the Superintending Engineer, I Circle, dated 17th May 1886, No. 57 G.D.
Letter from the „ „ I „ „ 30th Dec. 1887, „ 2318 G.D.
Office note to Examiner, Public Works Accounts, dated 17th January 1888, No. 7.
Office note from „ „ „ „ „ 20th „ „ „ 982.

No. 16 I.

Submitted to Government.

CHEPÂK,
26th January 1888.

(Signed) H. R. MEAD, Colonel, R.E.,
Chief Engineer for Irrigation.

To the Joint Secretary to Government,
Public Works Department, Irrigation Branch.

ORDER—dated 1st February 1888, No. 78 I., Public Works.

The estimates, amounting respectively to Rs. 550 and Rs. 350, for constructing regulating sluices to Mulastanam and Jannada channels, distributaries of the Bank

canal, in the Godávari Eastern division, are sanctioned, against the lump sum provision of Rs. 1,000 made for the sluices in the delta completion estimates, the net saving of Rs. 100 effected by the present estimates being added to the balance available for unforeseen works, which will then be increased to Rs. 19,418.

2. This sanction has been registered as No. 122 I. of 1887-88, and classified as shown below :—

Capital Expenditure on Public Works (not charged against Revenue).
48. Irrigation.
Godávari Delta System.
Eastern Section.
I. Works.
Bank Canal.
(3) Distributaries.
C. Works.

	RS.
1. Mulastanam channel regulating sluice	550
2. Jannada channel regulating sluice	350
Total ...	900

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, I Circle, with four enclosures.
" Examiner, Public Works Accounts.
" Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 1st.

Recd. *Encl.*

G.O., 1st Feb. 1888, No. 78 I.

FEBRUARY.

Regulating Sluices

Estimates for constructing — to Mulastanam and Jannada channels, distributaries of the Bank canal, Godávari Eastern division, sanctioned.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

Read—the following letter from J. HANNAN, Esq., Superintending Engineer, II Circle, to the Chief Engineer for Irrigation, dated Gudiváda, 18th January 1888, No. 1733 K.S. :—

I have the honor to forward herewith, for your approval and sanction of Government, a statement showing the modifications of Irrigation allotments under Capital Account for 1887-88 of the Kistna Eastern division. The modifications required amount to Rs. 32,791.

2. The surrenders and additional allotments required under other heads will be reported by wire shortly.

Enclosure.

Statement showing the modifications of Irrigation allotments under Capital Account for 1887-88.

Division.	Main or sub-head.	Name of work.	Existing grant.	Modifications of allotments applied for.		Modifications of allotments proposed.		Remarks.
				Reduction.	Increase.	Reduction.	Increase.	
			RS.	RS.	RS.	RS.	RS.	
Kistna, Eastern.		CAPITAL EXPENDITURE ON PUBLIC WORKS NOT CHARGED AGAINST REVENUE.						
		48. Irrigation Works.						
		Kistna Delta System.						
		Masulipatam Canal.						
	(2) L. O.	Improving and widening canal.	25,723	−7,723	..	7,723	..	
		Cattle crossing, Mogalrajapuram.	350	..	50	..	50	The amount might be utilised if the spoil banks are ordered to be removed. These are incomplete works of last year. Will be completed this year.
		Do. Yanamalakuduru.	400	..	50	..	50	
		Do. Vallúr slope ..	300	..	374	..	374	
		Do. Kanakavalli ..	300	..	357	..	357	
		Do. Inampudi ..	270	..	533	..	533	
		Ellore Canal.						
	(3) C.	Madepalli channel head-sluice.	1,636	— 836	..	836	..	As it is almost determined not to lower the canal below Tammileru aqueduct, the plan of the sluice will have to be altered and another small one will suffice, so materials to the extent of Rs. 800 will be ample.
		Madepalli channel culvert ..	875	..	25	..	25	The iron work allowed will cost more than the amount originally allowed.

Statement showing the modifications of Irrigation allotments, &c.—*cont.*

Division.	Main or sub-head.	Name of work.	Existing grant.	Modifications of allotments applied for. Reduction.	Modifications of allotments applied for. Increase.	Modifications of allotments proposed. Reduction.	Modifications of allotments proposed. Increase.	Remarks.
			RS.	RS.	RS.	RS.	RS.	
Kistna, Eastern—*cont.*		CAPITAL EXPENDITURE ON PUBLIC WORKS NOT CHARGED AGAINST REVENUE—*cont.*						
		48. Irrigation Works—*cont.*						
		Kistna Delta System—cont.						
		Ellore Canal—*cont.*						
	(3) C.	Madepalli channel under-tunnel.	345	— 345	..	345	..	Materials for Rs. 535 have already been collected, hence no more material is required to be collected. Hence the cause of surrender.
		Do. culvert ..	465	..	35	..	35	
		Do. drop 0·65 ..	269	— 169	..	169	..	Roughstone and broken stone have already been received for these works, all that could be done in this official year is to get lime and cart materials to site.
		Do. do. 1·76 ..	373	— 223	..	223	..	
		Do. do. 2·22 ..	293	— 213	..	213	..	
		Do. do. 2 48 ..	298	— 218	..	218	..	
		Do. do. 3·4 ..	264	— 204	..	204	..	
		Do. do. 3·75 ..	265	— 215	..	215	..	
		Do. 9 minor irrigation sluices	520	— 320	..	320	..	
		Ryves' Canal.						
	(3) C.	Drop 10·32 Dosapad channel ..	532	..	2	..	2	To complete.
	L.	Improving Kunderu do. ..	5,000	..	500	..	500	
		Kalavapannula branch ..	1,000	..	1,000	..	1,000	Can be done in February and March 1888.
		Javanapudy branch	1,000	..	1,900	..	1,900	Do. do.
		Pulleru Canal.						
	(3) O.	Gapavanipalem ramp ..	50	..	30	..	30	
	(3) B.	Capileswarapuram channel, compensation.	1,360	— 1,360	..	1,360	..	
		Gudivada channel compensation.	300	..	300	..	300	
	(3) C.	No. 1 minor sluice on Motur channel.	100	..	100	..	100	
		No. 2 do. do. ..	100	..	100	..	100	
		No. 3 do. do. ..	100	..	100	..	100	
		No. 4 do. do. ..	100	..	100	..	100	
		No. 5 do. do. ..	100	..	100	..	100	
		No. 6 do. do. ..	100	..	100	..	100	
		Regulating dam of Motur channel.	6	— 6	..	6	..	
		Head-sluice to Golivepalli channel	100	..	200	..	200	
		Drop at 2nd mile of Golivepalli channel.	50	..	100	..	100	
		Drop at 3rd mile of Golivepalli channel.	50	..	100	..	100	
		Drop at 4th mile of Golivepalli channel.	50	..	100	..	100	
	(3) C.	Head-sluice to Chintalakodu ..	28	..	18	..	18	
		Do. to Chapakarakodu.	60	— 50	..	50	..	
		Do. to north side channel.	..	..	8	..	8	
		Do. to Pamarru channel.	..	..	50	..	50	
		Masonry works on Capileswarapuram channel.	1,233	— 1,233	..	1,233	..	
	(3) O.	Anamanapudi ramp	250	..	200	..	200	
		Rudrapaka do.	250	..	200	..	200	
		Unikili do.	300	..	200	..	200	
		Chinnavanigudem ramp ..	90	— 17	..	17	..	
		Cattle ramp, &c., Capileswarapuram channel.	760	— 760	..	760	..	
		Polraz Canal.						
	(2) I.	Surplus weir at Tadinada ..	117	— 100	..	100	..	Completed.
		Tadinada lock channel ..	..	..	855	..	855	

Statement showing the modifications of Irrigation allotments, &c.—*cont.*

Division.	Main or sub-head.	Name of work.	Existing grant.	Modifications of allotments applied for.		Modifications of allotments proposed.		Remarks.
				Reduction.	Increase.	Reduction.	Increase.	
			RS.	RS.	RS.	RS.	RS.	
Kistna, Eastern—*cont.*		CAPITAL EXPENDITURE ON PUBLIC WORKS NOT CHARGED AGAINST REVENUE—*cont.*						
		48. Irrigation Works—*cont.*						
		Kistna Delta System—cont.						
		Polraz Canal—*cont.*						
	(2) O.	Gudlavalleru ramp ..	300	— 120	..	120	..	Cannot be done until first 3 miles are widened.
		Vinnakota do. ..	50	..	280	..	280	
		Avadoddi do. ..	50	..	30	..	30	These ramps are incomplete works of last year. To complete them these balances have been applied for.
		Gurza and Kódúr do. ..	150	..	300	..	300	
		Vadali and Peyyeru do. ..	40	..	18	..	18	
		Aruthegalapad do. ..	50	— 23	..	23	..	
		Dakaram do. ..	35	...	25	..	25	
		Rachapatnam do. ..	100	— 79	..	79	..	These ramps are incomplete works of last year. To complete them these balances have been applied for.
		Kanukollu do. ..	..	..	6	..	6	
		Rudravaram do. ..	25	— 15	..	15	..	
		Lingala do. ..	..	..	11	..	11	
		Siamalambapuram do. ..	25	— 9	..	9	..	
		Kallapalem and Seetanapalli ramp.	..	..	8	..	8	
		Tadinada ramp	..	..	5	..	5	
		Appapuram do.	137	..	33	..	33	
		Mandavally and Perchegudem ramp.	25	— 9	..	9	..	
	(3) L.	Ramavaram channel new head.	250	..	350	..	350	
		Tadinada first distributary ..	..	..	4	..	4	
		Bantumilli Canal.						
	(2) I.	Lock at Kamalapuram ..	10,000	—1,000	..	1,000	..	Surrendered as it is doubtful whether the required material can be supplied.
		Polraz Drain.						
	(4) C.	Bridge at 5-13½ on Polraz drain.	..	..	1,000	..	1,000	
		Do. at 18-7 of Komaraval affluent.	26	..	100	..	100	
		Do. at 0-70 on Palakodu affluent.	..	..	1,000	..	1,000	
		Pullava Drain.						
	(4) L.	Pullava drain excavation ..	7,500	..	4,500	..	4,500	
		Peda Lanka Drain.						
	(4) L.	Excavating main drain ..	10,000	—4,000	..	4,000	..	This cannot be utilised before 31st Mar. 1888 owing to presence of water.
		Pedakommileru Drain.						
	(4) L.	Excavating main drain ..	6,000	..	9,000	..	7,090	
		Vadlamannad affluent.						
	(4) B.	Compensation	3,000	— 2,500	..	2,500	..	
	(4) L.	Excavation	6,800	..	7,834	..	7,834	This drain will be fully completed by the end of this year.
	(4) C.	Bridge	3,000	..	500	..	500	
		Iskapalle affluent.						
	(4) B.	Compensation	933	— 933	..	933	..	These, as well as the allotment of Capileswarapuram channel, are given up to make up the extra amount required on Vadlamannad affluent.
	L.	Excavation	4,390	— 4,390	..	4,390	..	
		Lazabanda Drain.						
	(4) B.	Compensation	2,000	— 1,500	..	1,500	..	
		Inampudi Drain.						
	(4) B.	Compensation	2,068	— 221	..	221	..	
		Polraz Canal.						
	(3) B.	Compensation Chivurukodu ..	2,700	— 2,700	..	2,700	..	Surrendered estimates not having yet been sanctioned.
		Do. Chigurukotu channel.	500	— 500	..	500	..	
		Do. Kykalur channel.	800	— 800	..	800	..	
			..	—32,791	32,791	32,791	30,881	
		Establishment at 23 per cent. on Rs. 8,304 the net amount transferred from B Land to Works	..	..	..	..	1,910	
		Total ..	..	..	..	32,791	32,791	

18th January 1888.

(Signed) J. HANNAN,
Superintending Engineer, II Circle.

No. 17 I.

Submitted to Government with the recommendation that the modifications of allotments proposed by the Superintending Engineer may be sanctioned, except the amount of Rs. 9,000 applied for on account of the Peddakomileru drain which may be reduced to Rs. 7,090 to provide for establishment charges at 23 per cent. on Rs. 8,304 the amount transferred from B. Land to C. Works.

Chepâk,
26th January 1888.

(Signed) H. R. MEAD, Col., R.E.,
Chief Engineer for Irrigation.

To the Joint Secretary to Government,
Public Works Department, Irrigation Branch.

Order—dated 1st February 1888, No. 79 I., Public Works.

The modifications of allotments, as altered by the Chief Engineer for Irrigation, are sanctioned.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, II Circle.
" Examiner, Public Works Accounts.
" Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 1st.

Recd. *Encl.*

G.O., 1st Feb. 1888, No. 79 I.

FEBRUARY.

Funds

Certain modifications of allotments in the II Circle, sanctioned.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

Read—the following paper :—

Proceedings of Government, Revenue Department, dated 21st January 1888, No. 74.

Read—Proceedings of the Board of Revenue (Land Revenue), dated 13th December 1887, No. 862.

Read—Note by the Chief Engineer for Irrigation, No. 162 I., dated 21st December 1887.

Order—dated 21st January 1888, No. 74, Revenue.

Orders will issue in the Public Works Department for an additional grant of Rs. 25,000 being sanctioned for the repair of monsoon damages to minor irrigation works to be carried out by the Revenue Department. The Board will arrange for a judicious distribution of this amount among the several districts and will impress upon Collectors the necessity for spending the whole of the allotment for their districts by the end of the official year. Steps will be taken in the Public Works Department for carrying out such repairs of damages caused by recent floods in the Salem district as require to be executed under professional supervision.

2. The Government desire that the Board will draw the particular attention of Collectors to the remarks of the Chief Engineer for Irrigation on the objections to the practice of deferring the expenditure of the major portion of the allotments till the last month of the year. The programme of works to be carried out each year, excepting repairs of monsoon damages, should be settled before the commencement of the year, in order to allow of operations being begun at once. If this is done, the best working season will not be lost, as it now too frequently is, and the bulk of the work will be completed before the north-east monsoon sets in.

(True Extract.)

(Signed) H. A. STUART,
Under Secy. to Government.

Order—dated 1st February 1888, No. 80 I., Public Works.

The progress of tank restoration works in the Kurnool division being very slow, the tank restoration grants under "Original Works and Repairs" for that division will be reduced by Rs. 6,000 and Rs. 7,758, respectively, making a total of Rs. 13,758 or Rs. 17,129 including establishment and tools and plant charges. This amount added to Rs. 7,871, the balance of reserve including establishment and tools and plant charges, will make a total of Rs. 25,000, which will be placed at the disposal of the Board of Revenue for expenditure on minor irrigation works under the charge of Collectors.

2. The Superintending Engineer, IV Circle, who has already been directed to depute Sub-Conductor Mr. J. Cormac to inspect the works and report on the extent of damage done to minor irrigation works in the Salem district, will see that without delay an application for any allotment as may be necessary is made for any special repairs that may be advisable for the Public Works Department to undertake.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
,, Superintending Engineer, III Circle.
,, ,, IV ,,
,, Examiner, Public Works Accounts.
,, Revenue Department.

IRRIGATION.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 1st.

Recd. *Encl.*

G.O., 1st Feb. 1888, No. 80 I.

FEBRUARY.

Minor Irrigation Works

Orders on proceedings in the Revenue Department regarding funds for repair of — damaged by monsoon.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following papers:—

Telegram from the Superintending Engineer, I Circle, to the Joint Secretary to Government, Public Works Department, Irrigation Branch, dated 1st February 1888.

Ganjam wires further allotment, rupees twenty thousand, absolutely necessary for Rushikulya, or works must be stopped at once. Please wire him how much can be given.

No. 24 I.

Note by the Chief Engineer for Irrigation.

On the 28th April 1887 Mr. J. Hannan, the Executive Engineer of the Ganjam division, surrendered Rs. 60,000 from the grant of Rs. 2,30,000 for works of the Rushikulya project owing to the reduction of establishment and scarcity of labor. In memorandum No. 17 G.N., dated 30th May 1887, the attention of the Superintending Engineer, I Circle, was drawn to the slow progress of work on this project, and he was requested to submit an application for the additional establishment required to admit of the budget grant of the year being fully utilised. In his letter No. 245 G.N., dated 25th June 1887, the Superintending Engineer reported that the employment of additional establishment would not, in his opinion, enable the full grant being spent, considering the nature of the country and the sparseness of the population in that and the neighbouring country, and therefore suggested the relinquishment of Rs. 60,000 as proposed by the Executive Engineer. The amount not required was at first proposed to be transferred to the Buckingham canal, but in October 1887 it was finally surrendered to the Government of India, as they declined to sanction the transfer proposed.

2. In the application for additional funds, received from the Superintending Engineer with his letter No. 331 G.L., dated 6th December 1887, it was stated that Mr. Wybrow, the then Executive Engineer of the Ganjam division, telegraphed that the original budget grant would be fully utilised and that the amount surrendered might, if possible, be reallotted. In memorandum No. 27 I., dated 27th December 1887, the Superintending Engineer was informed that, as the amount surrendered was already relinquished to the Government of India, it was too late to reallot it, and an application for the necessary reappropriation of the existing allotments was called for, but this has not yet been submitted.

3. The progress report for November shows that Rs. 1,30,426 out of a grant of Rs. 1,40,000 for works and Rs. 13,779 out of a grant of Rs. 30,000 for land required for the project were spent.

4. The Executive Engineer, Ganjam division, informed the Examiner of Public Works Accounts, in reply to a reference made to him, that no funds could be spared for transfer to the Special Deputy Collector appointed for settling compensation for land

required for the project, the unspent balance of the grant for land having apparently been spent on works. In drawing the attention of the Superintending Engineer to the expenditure incurred in excess of the grant for works he was requested to report the additional grant absolutely required. The Examiner of Public Works Accounts was, in G.O., No. 68 I., dated 27th January 1888, authorised to issue credit to the Deputy Collector to the extent of Rs. 5,000 in anticipation of the provision of funds. The Superintending Engineer now reports that an additional allotment of Rs. 20,000 is absolutely required for expenditure during the current year, and, should no funds be available, the works which are now in good progress will have to be stopped. The Executive Engineer should have foreseen the necessity for additional funds earlier. Though the Superintending Engineer has already been telegraphed to stop further expenditure, it is considered most undesirable and much to be regretted that the works on which good progress is now being made for the first time should be stopped for want of funds. It is therefore recommended that an urgent application for an additional allotment of Rs. 25,000, including establishment charges, may be submitted to the Government of India.

CHEPÂK,
1st February 1888.

(Signed) H. R. MEAD, Colonel, R.E.,
Chief Engineer for Irrigation.

To the Joint Secretary to Government,
Public Works Department, Irrigation Branch.

ORDER—dated 2nd February 1888, No. 81 I., Public Works.

The Superintending Engineer, I Circle, will expedite the submission of his report already called for in the telegram, dated 27th January 1888, on the Executive Engineer's irregularity in exceeding the sanctioned grants.

2. The following deferred telegram will be sent to the Government of India :—

"Rushikulya works progressing better than anticipated, owing to additional labor now available. Additional grant, Rs. 25,000, urgently required for current year. Otherwise work must be stopped. Please wire sanction."

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
,, Superintending Engineer, I Circle.
,, Examiner, Public Works Accounts.
,, Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 2nd.

Recd. *Encl.*

G.O., 2nd Feb. 1888, No. 81 I.

FEBRUARY.

Rushikulya Project Works

Orders on note by the Chief Engineer for Irrigation on telegram from the Superintending Engineer, I Circle, applying for further allotment of funds for the — .

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

READ—the following papers :—

Proceedings of the Board of Revenue (Land Revenue), dated 5th January 1888, No. 2.

H. S. THOMAS, ESQ., F.L.S., F.Z.S.

Read—the following letter from J. LEE WARNER, Esq., Collector of Chingleput, to the Secretary to the Commissioners of Land Revenue, dated Saidápet, 14th December 1887, Reference on No. 4305-Eng. :—

I have the honor to submit a draft notification for the acquisition, under section 17 of the Land Acquisition Act X of 1870, of 6·01 acres of lands required for the diversion of the Buckingham canal in the village of Pulidivakkam, Ponnéri taluk, and to request that the Board will be pleased to obtain the sanction of Government for the proposed acquisition.

2. The General Charge Deputy Collector, who was requested to acquire the lands by private negotiation, reports that the lands in the first case are in charge of the Administrator-General of Madras, who demands a higher rate of compensation than those paid for similar and adjacent lands in the same village, while the owners of lands in the other two cases have not replied to his letters at all.

3. The lands are urgently required by Public Works Department.

ENCLOSURE No. 1.—Draft notification.

Resolution—dated 5th January 1888, No. 2.

Submitted to Government with the request that the draft notification may be ordered to be published in the *Fort St. George Gazette.*

(A true Copy and Extract.)

(Signed) R. S. BENSON,
Acting Secretary.

No. 419, Revenue.

Transferred to the Public Works Department (Irrigation Branch).

(By Order.)

FORT ST. GEORGE,
20th January 1888.

(Signed) H. A. STUART,
Under Secretary.

ORDER—dated 3rd February 1888, No. 82 I., Public Works.

Ordered that the notification, as amended, be published in the *Fort St. George Gazette.*

2. The General Charge Deputy Collector, Chingleput district, is authorised to perform the functions of a Collector and to take order for the acquisition of the lands in accordance with the provisions of Act X of 1870.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
,, Superintending Engineer, II Circle.
,, Revenue Department.

IRRIGATION.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 3rd.

Recd. *Encl.*

G.O., 3rd Feb. 1888, No. 821.

FEBRUARY.

Lands

Orders issued for the acquisition of certain — required for the diversion of the Buckingham Canal in Pulidivakkam village, Chingleput district.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

READ—the following papers:—

Proceedings of the Board of Revenue (Land Revenue), dated 5th January 1888, No. 1.

H. S. THOMAS, ESQ., F.L.S., F.Z.S.

Read—the following letter from J. LEE WARNER, Esq., Collector of Chingleput, to the Secretary to the Commissioners of Land Revenue, dated Saidápet, 24th November 1887, Reference on No. 4060-Eng.:—

I have the honor to submit a draft notification for the acquisition, under Land Acquisition Act X of 1870, of 12·01 acres of lands required for the diversion of the Buckingham Canal in the village of Pulidivakkam, Ponnéri taluk, and request that the Board will be pleased to obtain the sanction of Government for the proposed acquisition.

2. The General Charge Deputy Collector, who was requested to acquire the lands by private negotiation, reports that there are conflicting claims as to the ownership of the lands in the first four cases, and that the whereabouts of the owner of the lands in the other case are not known.

ENCLOSURE No. 1.—Draft notification.

Reference on the above, dated 3rd December 1887.

The Collector will report the circumstances which constitute "urgency" in this case and justify action under section 17.

(Signed) R. S. BENSON,
Acting Secretary.

Read—the following letter from J. LEE WARNER, Esq., Collector of Chingleput, to the Secretary to the Commissioners of Land Revenue, dated Saidápet, 9th December 1887, Reference on No. 4246-Eng.:—

With reference to Board's reference on General Register No. 2694, dated 3rd instant, I have the honor to inform you that the lands in question are urgently required for the diversion of the Buckingham Canal, and that the correspondence ending with Board's Proceedings, dated 6th idem, Mis. No. 4992, refers to them.

Resolution—dated 5th January 1888, No. 1.

Submitted to Government with the request that the draft notification may be ordered to be published in the *Fort St. George Gazette.*

(True Copies and Extract.)

(Signed) R. S. BENSON,
Acting Secretary.

No. 414, Revenue.

Transferred to the Public Works Department (Irrigation Branch).

(By Order.)

FORT ST. GEORGE,
19th January 1888.

(Signed) H. A. STUART,
Under Secretary.

ORDER—dated 3rd February 1888, No. 83 I., Public Works.

Ordered that the notification be published in the *Fort St. George Gazette.*

2. The General Charge Deputy Collector, Chingleput district, is authorised to perform the functions of a Collector, and to take order for the acquisition of the lands in accordance with the provisions of Act X of 1870.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, II Circle.
" Revenue Department.

IRRIGATION.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 3rd.

Recd. *Encl.*

G.O., 3rd Feb. 1888, No. 83 I.

FEBRUARY.

Lands

Orders issued for the acquisition of certain — required in the Pulidivakkam village, Chingleput district, for the diversion of the Buckingham canal.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following letter from J. HANNAN, Esq., Superintending Engineer, II Circle, to the Chief Engineer for Irrigation, dated Bezváda, 23rd January 1888, No. 1748 K. S. :—

I have the honor to forward herewith, for your approval and sanction of Government, a statement of modifications of Irrigation allotments required in the Kistna Western division under Capital Account of the Kistna delta system. The modifications amount to Rs. 10,920 and do not involve any alteration in the total grant.

ENCLOSURE.

IRRIGATION.

STATEMENT showing the fourth modification of allotments, Irrigation, for the year 1887-88, Kistna Western Division, in the II Circle.

Division.	Main and sub-head.	Names of works.	Existing grant.	Modification of allotment.		Remarks.
				Increase.	Reduction.	
		CAPITAL EXPENDITURE ON PUBLIC WORKS (NOT CHARGED AGAINST REVENUE).	RS.	RS.	RS.	
		48. IRRIGATION, II WORKS.				
		Main Canal.				
	(2) L. ..	Stubbing trees	500	..	500	No stubbing has been found necessary, as, by giving away the trees to private parties, they cut and take them away for nothing.
		Commamur Canal.				
	(3) B. ..	Jagerlamudi channel ..	..	69	..	Bills have been received for verification for the additional amount asked for.
	(3) L. ..	Srirangapuram channel ..	* 4,818	1,682	..	Work is in progress and the amount asked for can be spent.
	(3) B. ..	Santaravur side do. ..	660	..	600	No compensation bills have as yet been received for verification.
	(3) B. ..	Penugudurpad east side channel.	30	..	30	
	(3) B. ..	Penugudurpad west side channel.	300	..	200	
	(3) L. ..	Bápatla channel	10	90	..	Under orders from the Superintending Engineer the channel is being now surveyed and levelled and preliminary charges have to be incurred.

* *N.B.*—This is exclusive of the sum of Rs. 495 proposed in this office letter No. 1678 K.S., of the 5th January 1888, to be transferred to the work "Excavating Jagerlamudi channel."

Statement showing the fourth modification of allotments, &c.—*cont.*

Division.	Main and sub-head.	Names of works.	Existing grant.	Modification of allotment. In-crease.	Modification of allotment. Reduc-tion.	Remarks.
		Bank Canal.	RS.	RS.	RS.	
	(2) H. Escapes	Bobbaralanka weir ..	800	..	800	Bobbaralanka weir was abandoned and Mortota weir has been sanctioned in its place.
	(2) I. N. ..	Mortota weir	..	800	..	
	(4) O. & P. W. B. Land.	Nandivelugu affluent ..	300	..	300	Land has not yet been taken up.
	L. E. W. ..	Do. do. ..	1,000	..	1,000	
	(4) B. Land.	Nallamada do. ..	200	..	200	This work cannot be carried out until the Bapatla channel project has been settled.
	(4) L. E. W.	Do. do. ..	5,000	..	5,000	
	(4) L. E. W.	Sakikalava do. ..	16,940	..	2,000	Work cannot proceed till the water has flowed off and it has not done so as yet.
	(4) L. E. W.	Tungabhadra drain ..	12,000	7,753	..	Work is started and the amount asked for can be spent.
		Add 23 per cent. on Rs. 1,025 transferred from B. Land to Works.	..	236	..	
		Total ..	..	10,630	10,630	

23rd January 1888.

(Signed) A. B. TODD,
Executive Engineer, Kistna Western Division.

(Signed) J. HANNAN,
Superintending Engineer, II Circle.

No. 21 I.

Submitted to Government with the recommendation that the modifications of allotments proposed by the Superintending Engineer may be sanctioned except the amount of Rs. 8,279 applied for on account of the Tungabhadra drain which may be reduced to Rs. 7,753 to provide for establishment charges at 23 per-cent. on Rs. 1,025 being the amount transferred from B. Land to Works.

CHEPÂK,
31st January 1888.

(Signed) H. R. MEAD, Colonel, R.E.,
Chief Engineer for Irrigation.

To the Joint Secretary to Government,
Public Works Department, Irrigation Branch.

ORDER—dated 3rd February 1888, No. 84 I., Public Works.

The modifications of allotments, as altered by the Chief Engineer for Irrigation, are sanctioned.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, II Circle.
" Examiner, Public Works Accounts.
" Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of (1888) Madras.

PUBLIC WORKS.

Dated February, 3rd.

Recd. *Encl.*

G.O., 3rd Feb. 1888, No. 84 I.

FEBRUARY.

Funds

Certain modifications of allotments in the Kistna Western division, sanctioned.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following letter from J. W. RUNDALL, Esq., M.I.C.E., Superintending Engineer, VI Circle, to the Chief Engineer for Irrigation, dated Chinnammanúr, 26th January 1888, No. 1916 T. J.:—

As required in your memorandum, No. VI/13 T.J., dated 20th instant, I have the honor to submit, for the sanction of Government, the following application for modification of allotments for certain works connected with the Cauvery delta system, Tanjore division.

—	Existing grant.	Modification of allotment applied for.		Modification of allotment proposed.	
		Reduction.	Increase.	Reduction.	Increase.
CAPITAL EXPENDITURE ON PUBLIC WORKS (NOT CHARGED AGAINST REVENUE).	RS.	RS.	RS.	RS.	RS.
48. IRRIGATION.					
Cauvery Delta System.					
(1) Raising the platform of the Grand anicut under-sluice, estimate Rs. 1,470, sanctioned in G.O., No. 468 I., dated 3rd August 1887 ..	..	..	1,470	..	1,470
(2) Extending the rough stone apron of the Grand anicut, estimate Rs. 5,900, sanctioned in G.O., No. 706 I., dated 14th November 1887 ..	..	..	5,900	..	5,900
(3) Providing the Cauvery and Vennár regulators with gates and two lanterns, estimate of Rs. 190, sanctioned in G.O., No. 603 I., dated 7th October 1887 ..	..	..	190	..	190
(4) Raising the bank and revetment of Cauvery regulator in rear of nose revetment, estimate Rs. 550, sanctioned in G.O., No. 603 I., dated 7th October 1887 ..	..	..	550	..	550
Total ..	..	..	8,110	..	8,110

2. There are no funds available in the circle under the head in question for transfer to any of the above works. I request that the amounts, aggregating Rs. 8,180, above applied for, may be granted from the reserve at the disposal of Government or from the balance of lump sum available for unforeseen works of the project. This balance it is now observed * amounts to Rs. 9,752.

	RS.
* As per G.O, No. 383 I., dated 24th June 1887	4,920
Add—As per G.O., No. 706 I., dated 14th November 1887	5,677
	10,597
Deduct—Excess expenditure sanctioned in G O., No. 579 I., dated 28th September 1887	845
Balance ...	9,752

3. Item No. 1 in the preceding paragraph is not noticed in your No. VI/1 T.J. of the 7th January 1887; but as in your memorandum under reply it is stated that the sanction of the estimates from the said balance does not do away with the necessity for providing allotments for the works, this work has also been included in this application.

4. As regards paragraph 2, I have the honor to state that the Government order quoted by you was lost sight of in my office.

No. 23 I.

Submitted to Government.

2. The amount required for the first item having been allotted in G.O., No. 466 I., dated 3rd August 1887, no further allotment is required for it.

3. The demands for items 2, 3 and 4 aggregate Rs. 6,640, while the reserve available is only Rs. 2,001. The balance still required, viz., Rs. 4,639, or Rs. 5,706 including establishment charges, may, it is suggested, be met by transfer from the grants under 48. Irrigation Tools and Plant for the systems noted in the margin, the Superintending Engineer, II Circle, having in his telegrams, dated 18th and 28th January 1888, surrendered the amounts from the grants for those systems.

48. Irrigation.	RS.
Pennér anicut	1,847
Sangam anicut	500
Kistna Delta Eastern division ...	3,359
Total ...	5,706

CHEPÂK,
1st February 1888.

(Signed) H. R. MEAD, Colonel, R.E.,
Chief Engineer for Irrigation.

To the Joint Secretary to Government,
Public Works Department, Irrigation Branch.

ORDER—dated 3rd February 1888, No. 89 I., Public Works.

The following transfers of funds are sanctioned :—

48. Irrigation.

From	RS.	RS.	*To*	RS.	RS.
Pennér anicut tools and plant.	1,847		Cauvery Delta.		
Sangam do. do. ...	500		Tanjore Division.		
Kistna Eastern division tools and plant	3,359		Grand anicut, extending apron.	5,900	
		5,706	Cauvery and Vennár regulators, providing with gates and lanterns	190	
Cauvery Delta.					
Reserve for works	2,001		Cauvery regulator, raising bank and revetment in rear of nose revetment	550	
		2,001			6,640
			Establishment		1,067
Total ...		7,707	Total ...		7,707

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
,, Superintending Engineer, II Circle.
,, ,, ,, VI ,,
,, Examiner, Public Works Accounts.
,, Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 3rd.

Recd. *Encl.*

G.O., 3rd Feb. 1888, No. 89 I.

FEBRUARY.

Funds

Certain transfer of —, sanctioned.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following papers :—

From J. HANNAN, Esq., Superintending Engineer, II Circle, to the Chief Engineer for Irrigation, dated Bezváda, 11th January 1888, No. 360 B.C.

I have the honor to forward herewith a revised estimate, amounting to Rs. 20,833, for diversion and improvements to the Buckingham canal, $169\frac{3}{8}$ miles to 177 miles, or Rs. 3,703 in excess of the present sanction. The accompanying report explains the necessity for it.

2. The estimate now submitted is the second revision. The first revision was made by Mr. Wilson, Executive Engineer, in June of last year, and was sanctioned in G.O., No. 578, of the 21st August 1886. From the report submitted by the present Executive Engineer it would seem that the first revised estimate was not carefully made out.

3. There seems to have been no reason why the new cut should not have been made at such a distance from the old line as to admit of the eastern bank being formed without blocking it up. Had this been done, there would have been no necessity for this revised estimate and an extra expenditure of Rs. 3,000 obviated. Mr. Vincent, however, is not responsible for this, as the work was completed before he took over charge.

ENCLOSURE.

REPORT to accompany Estimate for diversion and improvements to Canal, 169 miles 3 furlongs to 177 miles; amount of estimate Rs. 20,833.

The first revised estimate for this work amounted to Rs. 17,130 and was sanctioned in Proceedings of the Madras Government, No. 578 I., of 21st August 1886. In this estimate it was assumed that all the earth obtained from cutting the new line near the flood-gate would be available for the formation of the east bank, but when the work came to be executed it was found that this was not so. The old and new lines run very close together, and, if the cutting had been thrown on to the east side, the old line would have been filled up and traffic stopped; consequently much of the cutting had to be thrown where it was not wanted, and pits dug to complete the east bank after the new line had been opened. This is one cause of the excess. Another cause is that, as the new and old lines meet at a very obtuse angle, the earth from the cutting of the new canal was not sufficient to fill up across the old line and to form the east bank; consequently more pits had to be dug. The accompanying sketch illustrates the position of the two lines.

Another cause for excess is that nothing was previously entered for demarcation.

The excess in turfing is due to the rear slope of the banks in some places having been turfed instead of being planted with creeper, the soil being unsuitable for creeper. The original provision for creeper is, however, maintained, as some of the creeper first planted is dead and will have to be redone.

The net result is an excess of Rs. 3,703, which may be met from the reserve at the disposal of Government.

(Signed) C. VINCENT,
Executive Engineer,
Buckingham Canal Division.

12th December 1887.

To the Examiner, Public Works Accounts, dated 25th January 1888, No. 12.
From the " " " " " 27th " " " 1008.

No. 22 I.

Submitted to Government with a recommendation that the revised estimate may be sanctioned.

CHEPÂK, (Signed) H. R. MEAD, Colonel, R.E.,
1st February 1888. Chief Engineer for Irrigation.

To the Joint Secretary to Government,
Public Works Department, Irrigation Branch.

ORDER—dated 6th February 1888, No. 95 I., Public Works.

The following revised estimate is sanctioned in supersession of the estimate of Rs. 17,130 sanctioned in G.O., No. 578 I., dated 21st August 1886, the excess of Rs. 3,703 being met from the balance of the amount reserved for unforeseen works, which will then be reduced to Rs. 15,967:—

Irrigation.
43. Minor Works and Navigation.
Irrigation and Navigation.
Works for which Capital and Revenue Accounts are kept.
Buckingham Canal.
Capital Account.
I. Works.
Northern Section.
(2) Main Canals and Branches.

	RS.
Diversion and improvements to canal, 169⅝ miles to 177 miles—	
B. Land	530
L. Earthwork	19,845
O. Miscellaneous	458
Total ...	20,833

2. This sanction has been registered as No. 123 I. of 1887-88.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, II Circle, with eight enclosures.
" Examiner, Public Works Accounts.
" Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 6th.

Recd. *Encl.*

G.O., 6th Feb. 1888, No. 95 I.

FEBRUARY.

Buckingham Canal

Revised estimate of Rs. 20,833 for the diversion and improvements to the — from 169 miles 3 furlongs to 177 miles, sanctioned.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following paper:—

No. 19 I.

Note by the Chief Engineer for Irrigation.

With letter No. 134 C., dated 12th November 1887, the Superintending Engineer, II Circle, submitted revised estimates, amounting to Rs. 2,62,670, for improving the Buckingham canal from Ennore to Pulicat, the amount of the sanctioned estimates for this portion of the canal being only Rs. 1,94,135 as shown below:—

	RS.
L. Earthwork	1,35,860
I. Navigation Works—	
Floodgate south of the Chintamony backwater	17,650
Floodgate north of the Chintamony backwater	16,650
South end of the Pulicat lake	16,650
Siding basins	7,325
Total ...	1,94,135

2. The line of canal originally decided on, after much consideration, was to run along the strip of land between the sea and backwater from the Ennore north floodgate as far as the channel leading up to the Chintamony bar, which channel was to be banked across. From this point the line followed very nearly the east edge of the backwater up to the south side of the Arani river (23 miles 6 furlongs) where a floodgate was to be provided. From $11\frac{1}{2}$ to 20 miles (Chintamony backwater) the line as originally sanctioned has been accepted with little or no alteration and work on this portion has been steadily carried on.

3. From 20th mile northwards the sanctioned line cannot be adhered to, the cyclone of November 1886 having conclusively shown that, if carried out, it could not be maintained. This cyclone produced at Pulicat a wave 7 feet above the highest recorded tide level, the results being that the Chintamony bar opened out, and the sea broke into the backwater at 22 miles 6 furlongs.

4. The Executive Engineer, Buckingham Canal, has proposed that from 20 miles northwards the new line of canal should be on the west of the backwater, floodgates being provided on north and south side of the Chintamony backwater, and the section $11\frac{1}{2}$ to 20 miles to be a closed canal.

5. The latter portion of this proposal is approved, but decision as to the best line for the diversion north of Chintamony backwater must be deferred pending reply of the Superintending Engineer, II Circle, to this office No. II/54 B.C., dated 29th November 1887. Meanwhile, it is considered advisable that the revised estimates, as far as they relate to the section $11\frac{1}{2}$ to 20 miles, be sanctioned at once, so that this portion may be completed as soon as possible.

6. The following revised estimates are therefore recommended for sanction:—

	RS.
1. B. Land—	
Compensation for land	20,000
2. L. Earthwork—	
Improvements to the canal, Ennore to Chintamony backwater	80,000
3. I. Navigation Works—	
Floodgate south of Chintamony backwater	18,625
4. Siding basin at Pulidivakkam	1,160
5. Do. at Kattupally	1,160
6. Do. at Kalingo	1,160
7. O. Miscellaneous—	
Demarcation	540
Total ...	1,22,645

For items 1, 2, 3 and 7 revised estimates have been prepared in this office from those received from the Superintending Engineer, while for items 4, 5 and 6 the sanctioned amounts have been retained (*vide* item 12, section 1 of the abstract of completion estimate for the canal printed with G.O., No. 841 W., of 14th March 1883).

7. The difference of Rs. 71,490 between the original estimates for improving the canal from Ennore to Pulicat and the revised estimate now recommended for sanction, as well as Rs. 39,920 provided in the completion estimates of the canal on account of rest-houses at the places noted in the margin which are now considered unnecessary, making a total of Rs. 1,11,410, may be reserved for improving the canal from Chintamony backwater to Pulicat.

	RS.
Royadoruvu	5,715
Dugarajapatam	5,715
Sodavaram	5,715
Tummalapenta	5,715
Oolapaliem	5,715
Kothapatam	5,630
Panayaur	5,715
Total ...	39,920

CHEPÂK,
27th January 1888.

(Signed) H. R. MEAD, Colonel, R.E.,
Chief Engineer for Irrigation.

To the Joint Secretary to Government,
Public Works Department, Irrigation Branch.

ORDER—dated 6th February 1888, No. 96 I., Public Works.

The following revised estimates, amounting to Rs. 1,22,645, for improving the Buckingham canal from Ennore to Chintamony backwater, are sanctioned, against Rs. 1,94,135 the amount of existing sanction for improving the canal from Ennore to Pulicat, the difference of Rs. 71,490 as well as Rs. 39,920 provided for rest-houses not now required, making a total of Rs. 1,11,410, being reserved for improving the canal from Chintamony backwater to Pulicat:—

Provincial.
43. Minor Works and Navigation.
Works for which Capital and Revenue Accounts are kept.
Buckingham Canal.
Capital Account.

Improving the canal from Ennore to Chintamony backwater—

	RS.
B. Land—	
Land compensation	20,000
L. Earthwork—	
Improvements	80,000
I. Navigation Works—	
Floodgate south of Chintamony backwater	18,625
Siding basin at Pulidivakkam	1,160
Do. at Kattupally	1,160
Do. at Kalingo	1,160
O. Miscellaneous—	
Demarcation	540
Total ...	1,22,645

2. This sanction has been registered as No. 124 I. of 1887-88.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, II Circle, with thirteen enclosures.
" Examiner, Public Works Accounts, with three duplicate abstract estimates.
" Revenue Department.
" Chamber of Commerce.

IRRIGATION.
ACCOUNT.

Govt. of (1888) Madras.

PUBLIC WORKS.

Dated February, 6th.

Recd. *Encl.*

G.O., 6th Feb. 1888, No. 96 I.

FEBRUARY.

Buckingham Canal Project

Revised estimates for improving the Buckingham canal from Ennore to Chintamony backwater, sanctioned with remarks.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following telegram from the Secretary to the Government of India, Public Works Department, to the Secretary to the Government of Madras, Public Works Department, dated Calcutta, 4th February 1888.

Your telegram second. Additional twenty-five thousand sanctioned, Rushikulya project, current year.

ORDER—dated 6th February 1888, No. 98 I., Public Works.

Communicated to the officers concerned, in continuation of G.O., No. 81 I., dated 2nd February 1888.

2. The following deferred telegram will be sent to the Superintending Engineer, I Circle :—

"India sanctioned additional twenty-five thousand, Rushikulya, current year. Send immediately distribution statement."

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, I Circle.
" Examiner, Public Works Accounts.
" Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 6th.

Recd. *Encl.*

G.O., 6th Feb. 1888, No. 98 I.

FEBRUARY.

Rushikulya Project

Orders on telegram from the Government of India sanctioning additional allotment of Rs. 25,000 to the — for expenditure during the current year.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following papers :—

From Colonel J. PENNYCUICK, R.E., Superintending Engineer, Periyár Project, to the Chief Engineer for Irrigation, dated Thekady, 19th January 1888, No. 559 P.R.

I have the honor to request consideration to the state of the grants for the Periyár Project for the current year.

2. In my letter No. 4 P.R., of 20th August 1887 (from VI Circle office), it was stated that we could not reckon on a larger local expenditure on "Works" than Rs. 66,000 which, with establishment charges, would make up a total of Rs. 82,170, leaving a balance of Rs. 67,830 from the grant of Rs. 1,50,000, which it was proposed to expend on the purchase of stores and machinery from England.

3. The supply of labor has, however, greatly exceeded my anticipations and the expenditure has been proportionately greater.

4. The actual expenditure including liabilities up to the end of December was Rs. 57,000 ; it is not very easy to estimate the expenditure during January and February ; the ragi harvest and the Pongal feast have caused a great falling off in the labor supply, but the people are beginning to come back again, and I have little doubt that by the end of this month we shall have over two thousand. I am disposed to estimate the probable expenditure during January and February at Rs. 35,000, making a total of Rs. 92,000 on works, which, with establishment charges, will raise to Rs. 1,15,000, leaving a balance of only Rs. 35,000 to meet the English expenditure.

5. It depends entirely on what this expenditure is, whether an additional grant is necessary or not. The total value of stores ordered is £ 3,777, which, taking the pound sterling at 14 rupees and adding 25 per cent. for freight, gives a total cost of Rs. 66,000.

6. Advice has been received of contracts for the supply of stores to the value of £ 2,830, or Rs. 49,000 out of this total, but the date of probable shipment is given as January for some articles and February for others, so that it is not probable that they will arrive much if at all before the end of March ; of the articles represented by the remaining Rs. 17,000 nothing at all has been heard, and it may, I think, be assumed that these will not be received before the end of the official year.

7. Under these circumstances it will, I think, be safe to provide only the Rs. 49,000, mentioned in the last paragraph, for expenditure in this year, to which should be added Rs. 3,000 for landing charges at Tuticorin, the cost of transport to the Periyár being met from next year's grant.

8. This will make the total expenditure during the current year Rs. 1,67,000 or Rs. 17,000 in excess of the existing grant, which I trust can be increased by that amount.

9. It is of the utmost importance to take advantage of the present favorable weather, and work will therefore be pushed on without reference to the grants, pending further orders of Government.

Telegram to the Superintending Engineers, I and II Circles, dated 24th January 1888.

Rupees 17,000 required for Periyár. Please wire amount you can spare under 48. Irrigation.

Telegram from the Superintending Engineer, II Circle, to the Joint Secretary to Government, Public Works Department, Irrigation Branch, dated Bezváda, 28th January 1888.

Your telegram 24th. Kistna Eastern surrenders 48. Capital, 1. Works, Rs. 15,216; 3. Tools 5,000; 42. Revenue Extensions 2,000; Tools 2,600. Wants repairs 43. Minor Works 5,000. Nellore also wants repairs 43. Minor Works 10,000; Sangam Anicut Maintenance 3,000. Please transfer 600 from surplus weir, Kottur tank, to waste weir, Velagaleru Balerow tank, Eastern division. Please wire orders.

From the Superintending Engineer, Periyár Project, dated 25th January 1888, No. 586 P.R.

No. 25 I.

Submitted to Government.

2. The Superintending Engineer, Periyár Works, applied for an additional allotment of Rs. 42,000 for works of the Periyár project as the supply of labor greatly exceeded his anticipations. Including establishment charges the amount required will be Rs. 51,660. As it is improbable that all the machinery indented for for the project will arrive before the end of the current official year, the amount required under tools and plant is estimated at only Rs. 52,000, or Rs. 36,500 less than the existing grant. The net additional grant required for the project is therefore Rs. 15,160, not Rs. 17,000, as stated by the Superintending Engineer, the difference being probably due to wrong calculation of establishment charges. This estimate of expenditure on tools and plant is based on the advices already received of the probable dates of despatch of the machinery indented for. Should the probable expenditure in England, however, exceed the reduced grant, the excess may, unless there are savings available, be adjusted against the grant for next year as, under the existing arrangements, all English expenditure is in the first instance charged to Provincial funds subject to adjustments in the Indian accounts. The Superintending Engineer, II Circle, in his telegram, dated the 28th ultimo, in reply to one sent from this office, surrendered Rs. 15,216 from the grant for works and Rs. 5,000 from that for tools and plant in the Kistna Eastern division, making a total of Rs. 23,716, including Rs. 3,500 for establishment charges. Of the amount surrendered, Rs. 3,359 have been reappropriated towards meeting the demand recently made for the Cauvery delta, leaving Rs. 20,357 available. This sum is Rs. 5,197 more than that asked for for the Periyár project, but the excess can be utilised on the project as shown below :—

	RS.
Works	4,225
Establishment	972
Total ...	5,197

3. Under 42. Major Works (Working Expenses) the Superintending Engineer, II Circle, surrendered Rs. 2,000 from the grant for extensions and improvements and Rs. 2,600 from that for tools and plant in the Kistna Eastern division and applied for Rs. 3,000 for the Sangam anicut system under maintenance and repairs or Rs. 3,690 including establishment charges. To meet this demand, Rs. 886 of the first item of surrender, or Rs. 1,090 including establishment charges, and the whole of the surrender in item 2, may be reappropriated. The Superintending Engineer should arrange for the unappropriated balance of the first item being utilised.

4. Under 43. Minor Works and Navigation the Superintending Engineer applied for Rs. 5,000 for minor original works in the Kistna Eastern division and for Rs. 10,000 for those in the Nellore division. There are no funds available to meet these demands. The transfer of Rs. 600 from the Kottur tank to Velagaleru Balerow tank in the Kistna Eastern division, as proposed by the Superintending Engineer, may be sanctioned.

CHEPÂK,
3rd February 1888.

(Signed) J. P. DAVIDSON,
for Chief Engineer for Irrigation.

To the Joint Secretary to Government,
Public Works Department, Irrigation Branch.

ORDER—dated 7th February 1888, No. 99 I., Public Works.

The following transfers of funds are sanctioned :—

Imperial.

48. Irrigation.

From	RS.	RS.	*To*	RS.	RS.
Kistna Eastern division.			Periyár Project		
Works	15,216		Works	46,225	
Establishment	3,500		Establishment	10,632	
Tools and plant	1,641				
		20,357			
Periyár Project					
Tools and Plant	36,500				
		36,500			
Total		56,857	Total		56,857

Kistna Eastern.			42. Major Works (Working Expenses). Sangam Anicut System.	
Extensions and improvements	886		Maintenance and repairs ...	3,000
Establishment	204		Establishment	690
Tools and plant	2,600			
Total ...		3,690	Total ...	3,690

Provincial.

43. Minor Works and Navigation.

Irrigation and Navigation.

Works for which neither Capital nor Revenue accounts are kept.

Original Works.

Kistna Eastern Division.

From	RS.	*To*	
Kottur tank	600	Velagaleru Balerow tank	600
Total ...	600	Total ...	600

2. The following deferred telegram will be sent to the Superintending Engineer, II Circle :—

"Under 48 and 42 surrenders accepted, except Rs. 1,114 under Extensions and improvements. Demand for Sangam maintenance sanctioned. Under 43 no funds available to meet demands. Proposed transfer sanctioned."

3. The following deferred telegram will be sent to the Government of India :—

"Under 48. Irrigation Rs. 20,357 transferred from Kistna to Periyár, more labor being available for latter. Under 42. Major Works Rs. 3,690 transferred from Kistna to Sangam."

4. Ordered that a copy of these proceedings be forwarded to the Government of India for information.

(Here enter No. 100 I., dated 7th February 1888.)

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer, for Irrigation.
" Superintending Engineer, II Circle.
" " " Periyár Project.
" Examiner, Public Works Accounts.
" Revenue Department.

ENDORSEMENT—dated 7th February 1888, No. 100 I., Public Works.

Forwarded.

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

IRRIGATION.
ACCOUNT.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 7th.

Recd. *Encl.*

G.O., 7th Feb. 1888, No. 100 I.

FEBRUARY.

Funds

Forwarding copy of proceedings sanctioning certain transfers of —.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

READ—the following papers :—

Proceedings of the Madras Government, Revenue Department, dated 20th December 1887, No. 1176.

Read—the following note by the Chief Engineer for Irrigation, to the Joint Secretary to Government, Public Works Department, Irrigation Branch, dated Ootacamund, 18th June 1887, No. 75-I. :—

In Trichinopoly, Coimbatore and Salem districts an irrigation cess is collected from the ryots holding land under some of the principal channels in those districts and the money so collected is expended by the Revenue Department—

1st—In carrying out koramboos (banks of sand grass, &c., thrown across the river-beds at the bunds of the channels when the supply in the rivers is low).

2nd—In clearing the channels.

3rd—In the pay of a special establishment to look after the conservancy of the channel and in attending to the regulation of the channel water, that is chiefly in dividing the available supply in the channel as fairly as practicable between the cultivators.

4th—In special repairs and works.

5th—In planting trees and in attending to the conservancy of the padugays from which stakes, bushes, grass, &c., are taken for the formation of the koramboos.

2. These works are what is called kudimaramut, that is customary labor by the ryots ; the ryots, instead of doing these works themselves, prefer to pay a voluntary cess which is collected, it is believed, without any difficulty, and the Revenue authorities with the money so collected carry out the works.

3. This system has answered well and is on the increase. In Trichinopoly district, in Lálgudi taluk, it has been in existence for nearly 30 years. It benefits both Government and the ryot, as in these days it is not practicable as it was formerly to press labor from the ryots and construct koramboos, carry out clearances, &c., by forced labor. The work which is necessary for the irrigation is much better done by money payments and regular establishments.

4. The rate of this voluntary cess, which has been in different channels and districts arbitrarily fixed, varies greatly.

5. In Salem it is as high as Rs. 2 an acre ; in Trichinopoly, it is believed, it is in places as low as 2 annas an acre.

6. There has always been almost an impossibility to lay down what works should be carried out by Government and what ought to be done by the ryots either by customary labor or by a money cess in lieu of it. In every district custom varies, and in most districts there is no doubt but the Government have relieved the ryot of much that he was in the habit of doing.

7. Take an instance on a large scale. Before the upper and lower anicuts in Tanjore were built, the ryots had yearly at the cost of enormous labor to put across

in G.O., No. 1398, dated 23rd December 1885, in which they similarly vetoed the Collector of Salem's proposal to build new sluices, &c., and went so far as to direct that the collection of the irrigation cess should be stayed for a year (the annual cess of the channels is Rs. 11,159–9–11).

27. He would, however, urge that the question be reopened and that the proposal of the Collector of Coimbatore should be accepted, but instead of the money being paid to the Public Works Department for channel clearing (that evidently both the Collector and the Board of Revenue consider was work that might have fairly been carried out from the irrigation cess) on the understanding that Government through Public Works Department expend a similar amount in building new sluices, that the money be paid to the Public Works Department as a private contribution for the purpose of building sluices in the channels and so improving the regulation of the water to the benefit of the ryots and Government.

28. Of course the Collector as trustee of the irrigation cess fund is to have a voice in the selection of the sluices to be built.

29. Should Government approve of this proposal, it is hoped that, in future, sluices and other irrigation works that improve the irrigation and distribution of water of channels may be carried out from irrigation cess funds paid voluntarily by the ryots and also that gradually, with care and judgment, irrigation cesses may be introduced in most of the larger channels in the Presidency.

30. Eventually it is hoped that an irrigation cess may be introduced into Tanjore district where so much has been done for the ryots at the sole cost of Government and where, although Government are gradually building works for the regulation of the main rivers, the regulation of the minor branches and channels is almost the most backward in the Presidency.

(Signed) H. R. MEAD, Colonel, R.E.,
Chief Engineer for Irrigation.

ENCLOSURES.

From Colonel J. BEATTY, R.E., Superintending Engineer, IV Circle, to the Chief Engineer for Irrigation, dated Coimbatore, 6th May 1887, No. 30 E.I.

Copy of Collector's letter, No. 552, dated 30th March 1887.
Revenue Board's Proceedings, No. 503, dated 17th March 1887.

I have the honor to forward, for your information and instructions, copy of a letter received from the Collector of Coimbatore, offering to place at the disposal of this department certain balances of irrigation cess funds on certain terms; his principal object being, apparently, to secure the construction of sluices in the Kalingarayan and Thudapulli channels. But it seems to me that any arrangements entered into should have the sanction of Government.

2. An estimate is now ready for the improvement of the Kalingarayan channel, which will be sent you immediately. Some more information is wanted from the Revenue Department, but I shall not delay the estimate on that account. That estimate provides for re-sluicing the Kalingarayan; and as soon as the system of re-sluicing proposed in that estimate is sanctioned, the same can be applied to the Thudapulli channel also.

3. The wants of the Thudapulli channel in regard to sluices will have to be investigated; but this should not cause much delay, as we have levels of the channel, and all that is necessary is to ascertain the exact position of existing sluices and cuts and the area now supplied by each of them. This I have requested the Executive Engineer to have put in hand at once, and a scheme will then be prepared for re-sluicing it, and sent you for approval.

From W. A. WILLOCK, Esq., Acting Collector of Coimbatore, to the Executive Engineer, Coimbatore Division, dated 30th March 1887, Reference No. 552—Board.

In forwarding a copy of Board's Proceedings, No. 503, dated 17th March 1887, I have the honor to request you to inform me whether you have any objection to the proposal made by Mr. Leman to the Board and approved of by them. I am prepared to place the sums belonging to the Kalingarayan and Thudapulli channels at your disposal on the understanding that they are to be used for clearing silt and that the funds you have alloted are devoted to improving the sluice arrangements.

Proceedings of the Board of Revenue, dated 17th March 1887, No. 503.

Read—the following letter from G. D. LEMAN, Esq., Collector of Coimbatore, to the Secretary to the Board of Revenue, dated Coimbatore, 1st March 1887, Reference on No. 1605 :—

With reference to paragraph 13 of Board's Proceedings, dated 26th November 1883, No. 3580, I have the honor to state as follows.

2. The total actual closing balance on 31st March 1886 was Rs. 20,352. This represents the surplus amount available for expenditure. Of this sum Rs. 10,086 belongs to the Kalingarayan channel in Erode taluk and Rs. 5,721 to the Thudapulli channel in Satyamangalam taluk. The remaining amount belongs to 21 channels in the taluks of Dhárápuram, Karúr and Satyamangalam. The sums relating to these latter channels being small, they may be expended on petty kudimaramut improvements to these channels, and I request sanction accordingly. The only items, for the expenditure of which proposals are required, are Rs. 10,086 belonging to the Kalingarayan and Rs. 5,721 to the Thudapulli channels. The most useful way in which these sums can be expended is the construction of irrigation sluices in the channels. As the Board have objected to this, I would suggest that these sums may be made over to the Public Works Department for expenditure in clearing these two channels of the silt; the amount allotted by the Public Works Department for channel clearance may then be utilised in constructing sluices. The clearance of these channels is not made by the ryots, but is always done by the Public Works Department at Government expense.

Resolution—dated 17th March 1887, No. 503.

The proposal to spend the money due to the 21 minor channels on petty improvements is approved.

2. The proposal to transfer the balance of the Kalingarayan and Thudapulli channels to the Public Works Department for the clearance of silt is also approved on the condition named by the Collector, and on the understanding that such a transfer is not to be made a precedent of.

(A true Copy and Extract.)

(Signed) H. A. SIM,
Acting Sub-Secretary.

No. 251 D.

Transferred to the Secretary to Government, Revenue Department, for disposal.

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secretary to Government, P.W.D.,
Irrigation Branch.

OOTACAMUND,
21st June 1887.

Order—dated 20th December 1887, No. 1176, Revenue.

Irrigation, No. 12.

The papers which accompany the note of the Chief Engineer for Irrigation read above seek the sanction of Government to the making over by the Collector of Coimbatore to the Public Works Department of a portion of the balances of the irrigation cess in that district, in view to the improvement of the Kalingarayan and Thudapulli channels by the construction of distributing and regulating sluices.

2. The note of the Chief Engineer, however, raises the general question as to what works may legitimately be carried out from the balance of irrigation cesses, and contains arguments which induce Government to hold it desirable to reconsider their previous orders on the subject.

3. The following is a brief account of the irrigation cesses paid in the various districts in which this voluntary and useful institution exists :—

Tanjore District.

(1) Tiruturaipúndi taluk—$1\frac{1}{4}$ annas per 6·6 acres (collected since 1849).
(2) Mannárgudi taluk—1 per cent. of the assessment (collected since 1867).
Balance to credit of the fund at the close of the last official year—Rs. 94.

Trichinopoly District.

(1) Lálgudi division, Trichinopoly taluk—
2 annas per *Kani* (1⅓ acres) for direct irrigation,
1 anna per *Kani* for irrigation from a surplus channel,
(levied from 1857).

(2) Konad division, Trichinopoly taluk—
3 annas per *Kani* for direct irrigation,
2 annas per *Kani* for irrigation from a surplus channel,
(collected from 1861).

(3) Udayárpálaiyam taluk—6 annas per acre (levied from 1868).

(4) Kulitalai taluk—
10 annas per acre for direct irrigation,
6 annas per acre for surplus irrigation,
4 annas per acre for baling,
(collected from 1885).

The balance to the credit of the fund at the close of the last official year was Rs. 25,373.

Coimbatore District.

Of the irrigation cess in this district, the Board of Revenue wrote in their letter, No. 314, dated 5th March 1873, as follows :—

"It averages Rs. 12,663. The collection was sanctioned in G.O., 16th November 1865, No. 2810. Recently, the ryots under several of the channels have refused to pay the cess and it has been discontinued. In Perandorai, Palladam, Coimbatore and Satyamangalam the cess is entered in the puttas and collected as land revenue, being a lawful charge on land exacted in one form or another, from time immemorial. In Karúr it is a voluntary cess."

The balance to the credit of the fund at the close of the last official year was Rs. 19,618.

Salem District.

Námakal taluk—(Kávéri channels)—
Rs. 2 per acre for direct irrigation,
Re. 1 per acre for baling,
(collected since 1872).

The balance to the credit of the fund at the close of the last official year was Rs. 25,717.

4. The objects to which it has hitherto been devoted have chiefly been the construction of *koramboos*, the clearance of channels and the payment of an establishment for the regulation and distribution of water. The expenditure on these and similar items has left, in some instances, considerable balances. Hitherto no portion of the cess has been devoted to the construction of head and regulating sluices, but the Government, on a consideration of the arguments of the Chief Engineer for Irrigation, are now of opinion that, where there is an available balance, and it has been distinctly ascertained that the ryots wish it, there can be no possible objection to such balance being devoted as a contribution towards the construction of sluices which will materially assist the due regulation and distribution of water and also tend to decrease the cost of clearances.

5. The Government are therefore pleased to sanction the proposals made with regard to the Kalingarayan and Thudapulli channels, and to rule that, in future, the balances in other districts may be devoted to works similar to those contemplated in the present case.

6. The Government agree with the Chief Engineer for Irrigation that it would be of benefit to the ryots, if the collection of such a voluntary cess could be extended in the districts in which it now exists, and initiated in others, but they are not prepared to make the cess leviable by legal process, until the movement assumes larger proportions than at present.

(True Extract.)

(Signed) J. F. PRICE,
Secretary to Government.

ORDER—dated 8th February 1888, No. 101 I., Public Works.

Communicated to Superintending Engineers for information.

2. The management of the irrigation cesses is entirely under the Revenue Department, but the officers of this department should bring to the notice of the Collectors any irregularities they may discover in their inspections and they should also give every assistance in their power to the Revenue Department when applied to for advice or co-operation.

3. With regard to masonry works constructed from irrigation cesses, the plans and estimates should be generally approved of by this department, and, should the Revenue Department wish it, the works can be carried out by the Public Works Department as contribution works.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
To Superintending Engineers.
To the Examiner, Public Works Accounts.
" Revenue Department.

IRRIGATION.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 8th.

Recd. *Encl.*

G.O., 8th Feb. 1888, No. 101 I.

FEBRUARY.

Irrigation Cess

Orders on proceedings in the Revenue Department sanctioning the proposals to utilise the balance of — in the Coimbatore district in improving the Kalingarayan and Thudapulli channels and to apply the balances in other districts to similar purposes.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

READ—the following:—

ARTESIAN WELLS.

No. 2, at the Savana Spinning Mills, Pondanpoliem, near Pondicherry, executed by Mr. Charles Poulain in 1881.

	METRES.
Diameter of tube	0·180
Thickness of iron plate	0·0025
Length of each tube	1·200
Height of the soil above the mean level of the sea	3·020
Depth of the well in the soil...	84·000
Date of commencement	28th Aug. 1881.
Date of completion	10th Dec. 1881.

Numbers of Strata.	Composition of soils passed through.	Thickness of Strata.	Depth of Strata.	Remarks.
		METRES.	METRES.	
1	Vegetable mould	1·00	1·00	
2	Yellow brown sandy clay	2·00	3·00	
3	River sand	3·00	6·00	Water rose at 3·50 metres.
4	Black muddy clay	0·60	6·60	
5	Black and white pebbles	0·50	7·10	
6	Coarse grey sand	2·40	9·50	
7	Grey sand with clods of black clay	0·85	10·35	
8	Black clay	1·40	11·75	
9	Coarse sand with pebbles at the base	5·37	17·12	Water rose at 17·12 metres.
10	Black and white gravel with pebbles	1·62	18·74	
11	Coarse and fine argilaceous sand	2·21	20·95	
12	Black sandy clay	0·40	21·35	
13	Coarse and fine sand stained with clay	0·75	22·10	
14	Fine grey argilaceous sand and mica	1·70	23·80	Water rose at 22·10 metres.
15	Grey sand with clods of black clay	6·20	30·00	
16	Black clay	7·60	37·60	
17	Round quartz pebbles with black clay	0·40	38·00	
18	Coarse argilaceous sand, yellow and black... ...	2·00	40·00	
19	Black sand and decayed wood	1·00	41·00	
20	Black sand with pebbles	1·10	42·10	Water at 1 metre above soil.
21	Coarse grey sand	0·20	42·30	
22	Yellow sand	0·25	42·55	
23	Grey sand with round quartz	1·00	43·55	
24	Grey sand with black clay	0·40	43·95	
25	Fine grey sand	2·00	45·95	
26	Yellowish sand with debris...	2·85	48·80	
27	Yellow sand with decayed wood	1·20	50·00	
28	Yellowish sand with a little black clay	2·00	52·00	
29	Yellow clay with little quartz	2·00	54·00	
30	Coarse sand with pebbles	1·40	55·40	

No. 2, at the Savana Spinning Mills, Pondanpoliem, near Pondicherry, &c.—*cont.*

Numbers of Strata.	Composition of soils passed through.	Thickness of Strata.	Depth of Strata.	Remarks.
		METRES.	METRES.	
31	Sand mixed with yellow quartz sand	1·70	57·10	
32	Fine sand stained with quartz and black clay ...	1·90	59·00	
33	Yellowish sandy clay with round quartz	3·72	62·72	
34	Grey sandy clay	1·20	63·92	
35	Grey sandy clay and mica	0·68	64·60	
36	Yellow sand with pebbles	0·81	65·41	Water at 1·05 metre above soil.
37	Yellow sandy clay	0·15	65·56	
38	White clay mottled with red	0·20	65·76	
39	Do. do.	0·30	66·06	
40	Yellow and rose sandy clay	2·70	68·76	
41	Grey sand with red	0·40	69·16	
42	Rose sand	0·46	69·62	
43	Yellow and rose sandy clay with decayed wood ...	1·43	71·05	Water at 1·26 metre above soil.
44	Grey sand with decayed wood	0·60	71·65	
45	Fine sand	0·15	71·80	
46	Yellow clay with red and white sand	0·80	72·60	
47	Fine black sand	0·85	73·45	
48	Yellow clay with red and grey sand	0·55	74·00	
49	Grey sand with pebbles and decayed wood ...	2·00	76·00	
50	Yellowish sand with decayed wood	0·50	76·50	
51	Yellow sand with rose	0·50	77·00	
52	Rose sandy clay with black clay	0·50	77·50	
53	Greyish sandy clay	0·50	78·00	
54	Grey and white sand	1·00	79·00	
55	Grey sand	0·50	79·50	
56	Yellowish sand with rose	0·10	79·60	
57	Dirty grey sand with rose	0·40	80·00	
58	Grey sand mixed with red and decayed wood ...	4·00	84·00	

No. 1 BORING in the People's Park, Madras, executed by Mr. Louis Cornet in 1885.

	METRES.
Diameter of tube	0·11
Thickness of iron plate	0·03
Length of each tube	3·00
Depth of the well in the soil	17·00
Date of commencement	1st June 1885.
Date of completion	13th " "
Effective working days, 10 hours each day	12
Expenditure	500 rupees.

Numbers of Strata.	Composition of soils passed through.	Thickness of Strata.	Depth of Strata.	Remarks.
		METRES.	METRES.	
1	Sweepings and rubbish	1·00	1·00	Water rose at 1 metre.
2	Brown sandy clay with shells	1·00	2·00	
3	Black sandy clay with shells	3·00	5·00	
4	Black sandy clay with quartz and shells	0·75	5·75	
5	Black clay with shells and decayed wood	1·25	7·00	
6	Hard greyish clay	2·00	9·00	
7	Black sandy clay with shells	1·00	10·00	
8	Fine sand mixed with grey, yellow and black clay	1·00	11·00	
9	Greenish sandy clay mixed with pebbles, shells and decayed wood	2·50	13·50	
10	Egg-sized sand	0·50	14·00	
11	Black grained sand	3·00	17·00	

NO. 2 BORING in the People's Park, Madras, executed by Mr. Louis Cornet in 1885.

	METRES.
Diameter of tube	... 0·26
Thickness of iron plate	... 0·04
Length of each tube	... 2·00
Depth of the well in the soil...	... 19·50
Date of commencement	24th March 1885.
Date of completion	9th July ,,
Expenditure	16,400 rupees.

Numbers of Strata.	Composition of soils passed through.	Thickness of Strata.	Depth of Strata.	Remarks.
		METRES.	METRES.	
1	Sweepings and rubbish	1·00	1·00	
2	Brown sandy clay with shells	1·00	2·00	Water rose at 2 metres.
3	Grey clay mixed with shells and quartz	3·00	5·00	
4	Black sandy clay mixed with shells	3·00	8·00	
5	White clay with quartz sand	1·00	9·00	
6	Black clay mixed with quartz sand	1·00	10·00	
7	Black clay with decayed wood and shells ...	2·00	12·00	
8	Black sandy clay with shells and decayed wood ...	1·00	13·00	
9	Grey sand mixed with yellow and black clay ...	1·00	14·00	
10	Greenish clay with shells and decayed wood ...	2·60	16·60	
11	Decayed rock	0·70	17·30	
12	Black granite very hard	2·20	19·50	

BORING in the Manavalayer's Garden, Ennore, executed by Mr. Rathana Moodaliar in 1883.

Diameter of tube	7 inches.
Thickness of tube	$\frac{1}{8}$ inch.
Length of each tube	4 feet.
Depth of the well in the soil	215 feet 6 inches.
Height of the soil above the Kortalayár	7 feet 6 inches.
Direct distance from well to sea	$\frac{1}{4}$ mile.
Date of commencement...	25th Sept. 1883.
Date of completion	5th ,, 1884.

Numbers of Strata.	Composition of soils passed through.	Thickness of Strata.	Depth of Strata.	Remarks.
		FT. INC.	FT. INC.	
1	Clay	2 00	2 00	
2	Sand in clay	1 00	3 00	
3	Smooth sand	1 00	4 00	
4	Sand	1 00	5 00	
5	White sand	1 00	6 00	
6	Soft clay	1 00	7 00	
7	Sand	4 00	11 00	Water rose at 7 feet 6 inches.
8	Sand and clay with shells	4 00	15 00	
9	Black clay	20 00	35 00	
10	Black sandy clay	16 00	51 00	
11	Hard blue clay	16 00	67 00	
12	Hard blue clay and sand	1 6	68 6	
13	Green sand	8 00	76 6	Water rose at 68 feet 6 inches.
14	Sandy clay	4 00	80 6	
15	Hard black clay	12 00	92 6	
16	Colored clay	1 00	93 6	
17	Hard clay with quartz	15 00	108 6	
18	Smooth sand	5 00	113 6	
19	Sand	1 00	114 6	
20	Hard clay	2 00	116 6	
21	Black smooth sand	8 00	124 6	
22	Colored clay	42 00	166 6	
23	Blue stone	4 00	170 6	
24	Sand and pebbles	6 00	176 6	Water rose at 170 ft. 6 incs.
25	Hard clay	25 00	201 6	
26	Lime stone	14 00	215 6	Water rose at 2 feet below ground.

BORING in the Maidan enclosure in the Trivandrum Fort, executed by Mr. Louis Cornet in 1884.

Diameter of tube ...	1 foot.
Thickness of tube ...	$\frac{1}{5}$ inch.
Length of each tube ...	5 feet.
Depth of the well in the soil ...	246 „
Height of the soil above mean sea level ...	30 „
Date of commencement ...	6th Jany. 1884.
Date of completion ...	9th August 1884.
Effective working days, 10 hours each day ...	138 days and 2 nights.
Expenditure ...	20,000 rupees.
Direct distance from well to sea ...	1 mile 6½ furlongs.

Numbers of Strata.	Composition of soils passed through.	Thickness of Strata. FT.	INC.	Depth of Strata. FT.	INC.	Remarks.
1	Made earth ...	3	3	3	3	
2	Black sand mixed with dirty red clay ...	13	2	16	5	
3	Dark yellow sand ...	6	7	23	00	Water rose at 17 feet.
4	Red and yellow clay mixed with white, red and yellow sand ...	1	7	24	7	
5	Brown and yellow clay mixed with sand and pebbles ...	6	7	31	2	
6	White and yellow clay mixed with black, pink river grey sand ...	8	2	39	4	
7	Yellow clay mixed with pebbles, white and pink sand	6	10	46	2	
8	White clay mixed with mica and black sand ...	11	3	57	5	
9	Whitish grey clay mixed with pebbles mottled with red and yellow ...	1	7	59	00	
10	Red and grey clay ...	1	8	60	8	
11	Grey clay ...	1	7	62	3	
12	Grey and yellow clay mixed with sand ...	5	00	67	3	
13	Black greenish clay with mica, sand and shells at bottom ...	14	9	82	00	
14	Black clay mottled with blue ...	9	10	91	10	
15	Bluish clay with shells and decayed leaves ...	4	11	96	9	
16	White argilaceous sand with shells and decayed wood	8	3	105	00	
17	Green, black, orange sand with decayed wood ...	1	7	106	7	
18	Decomposed rock ...	1	8	108	3	
19	White sandy clay ...	1	00	109	3	
20	White clay mottled with yellow ...	2	3	111	6	
21	White clay mottled with grey and fine sand ...	1	8	113	2	
22	Grey sandy clay ...	8	2	121	4	
23	White clay with plumbago ...	3	4	124	8	
24	White clay mottled with yellow and fine ferruginous sand ...	16	4	141	0	
25	Smooth grey clay with particles of plumbago ...	6	7	147	7	
26	Fine yellow sandy clay ...	3	3	150	10	
27	Brownish red clay with sand and lumps of white clay	3	4	154	2	
28	Yellow and white clay mixed with sand ...	6	7	160	9	
29	White clay mixed with grey, green, violet sand and nodules of white clay ...	16	.6	177	3	
30	White clay mixed with pebbles and nodules of white clay ...	19	9	197	0	
31	White, yellow, grey sand and pebbles ...	16	6	213	6	
32	White clay with small particles of plumbago ...	3	3	216	9	
33	White sandy clay with pebbles ...	13	0	229	9	
34	White sandy clay mottled with blue ...	3	3	233	0	
35	White sandy clay with copper and silver pyrites ...	3	3	236	3	
36	White clay with blue sand and mica ...	3	3	239	6	
37	Mica and garnet sand with gneiss ...	6	6	246	0	

CHEPÂK,
7th February 1888.

(Signed) J. P. DAVIDSON,
Assistant Chief Engineer for Irrigation.

No. 27 I.

Submitted to Government.

CHEPÂK,
7th February 1888.

(Signed) J. P. DAVIDSON,
for Chief Engineer for Irrigation.

To the Joint Secretary to Government,
Public Works Department, Irrigation Branch.

ORDER—dated 13th February 1888, No. 105 I., Public Works.

The statement showing the strata met with in boring artesian wells at the places shown therein will be published as a supplement to the *Fort St. George Gazette* for general information.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, V Circle.
" Revenue Department.

IRRIGATION.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 13th.

Recd. *Encl.*

G.O., 13th Feb. 1888, No. 105 I.

FEBRUARY.

Artesian Wells

Ordered that the statement showing the strata met with in boring — at certain places be published as a supplement to the *Fort St. George Gazette.*

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following telegram from the Superintending Engineer, I Circle, to the Joint Secretary to Government, Public Works Department, Irrigation Branch, dated Dowlaishweram, 10th February 1888 :—

Surrenders under River Embankments, Original Works, Rs. 1,000, Repairs 1,000, Ganjam division. Please arrange to transfer the Rs. 2,000 to 43. Irrigation and Navigation Works, Repairs, same division. Wire reply.

ORDER—dated 13th February 1888, No. 106 I., Public Works.

The following transfers of funds are sanctioned :—

Provincial.
43. Minor Works and Navigation.

From Agricultural Works. River Embankments. Ganjam Division.	RS.	*To* Irrigation and Navigation. Works for which neither Capital nor Revenue Accounts are kept. Ganjam Division.	RS.
Original Works	1,000		
Repairs	1,000	Repairs	2,000
Establishment	460	Establishment	460
Tools and plant	30	Tools and plant	30
Total ...	2,490	Total ...	2,490

2. The following deferred telegrams will be sent :—

To the Superintending Engineer, I Circle.

"Your telegram, 10th instant. Proposed transfers of funds sanctioned."

To the Government of India.

"Please note transfer of Rs. 2,490 from Agricultural to Irrigation Works, Capital Revenue Accounts not kept, in current year's revised estimate under 43."

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, I Circle.
" Examiner, Public Works Accounts.
" Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 13*th.*

Recd. *Encl.*

G.O.. 13th Feb. 1888, No. 106 I.

FEBRUARY.

Transfers of Funds

Orders sanctioning certain — under 43.
Minor Works and Navigation.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following letter from J. W. RUNDALL, Esq., M.I.C.E., Superintending Engineer, VI Circle, to the Chief Engineer for Irrigation, dated Veerapaudy, 28th January 1888, No. 1930 T.J. :—

I have the honor to request that sanction of Government may be obtained to the following modification of allotments :—

—	Existing grant.	Modification of allotment applied for.		Modification of allotment proposed.	
		Reduction.	Increase.	Reduction.	Increase.
	RS.	RS.	RS.	RS.	RS.
Provincial Irrigation. 43. Minor Works and Navigation. Works for which neither Capital nor Revenue Accounts are kept. Madura Division. Tank Restoration Work.					
(1) Minor new works	23,000	3,000	..	3,000	..
Irrigation, Ordinary.					
(2) Repairs	7,500	..	1,000	..	1,000
Trichinopoly Division. Original Works.					
(3) Enlarging the surplus sluice at Pulivalam of Wyacondan channel (item No. 20 of budget of 1887-88 and G.O., No. 781 I., of 9th December 1887)	3,059	183	..	183	..
(4) Minor new works	9,000	..	183	..	183
Tanjore Division. Agricultural. Original Works. River Embankment.					
(5) Fixing mile and furlong stones along the banks of Cauvery and its branches (item No. 57, budget of 1887-88) ..	2,000	500	..	500	..
(6) Cauvery right bank from Vennár head to the Kodamurty head and left bank from Grand Anicut to Triviar bridge (item No. 61 in budget of 1887-88)	5,000	..	500	..	500
Total ..	..	3,683	1,683	3,683	1,683

2. *Item No.* 1.—The failure anticipated in spending the full amount of the grant is attributed to the large number of works already in hand and to the unusually good monsoon which has filled all the tanks; also to the difficulty of getting contractors to take up works in some places.

Item No. 2.—Of the grant of Rs. 7,500, Rs. 7,479 have been already spent, and the sum of Rs. 1,000 applied for is required to meet the demands of certain urgent works. This sum cannot be spared from any other division in the circle; I would recommend that, if possible, it may be transferred from any other circle.

Item No. 3.—The work has been completed and the amount is a saving, and it may be transferred to item No. 4.

Item No. 5.—The amount cannot be spent during the year, and it may be transferred to meet, in portion, the additional demand for item No. 6, which, as already reported in this office No. 1687 T. J., dated 13th December 1887, amounts to Rs. 4,000.

3. Your No. VI/4 T.J., dated 12th January 1888, has been communicated with necessary orders to the Executive Engineers concerned; on receipt of their replies another application will, if necessary, be submitted.

Telegram to the Superintending Engineer, III Circle, dated 3rd February 1888.

Can Rs. 1,000 of 1,498, recovery under Original Works shown in Bellary December's progress report, be transferred Madura? Can Rs. 3,000 available be utilised on Kurnool tank restoration for which grants recently reduced?

Telegram from the Superintending Engineer, III Circle, to the Chief Engineer for Irrigation, dated Bellary, 10th February 1888.

Rupees 1,000 under Original, Bellary, can be transferred; 4,000 can be utilised on Kurnool tank restoration repairs.

ORDER—dated 16th February 1888, No. 109 I., Public Works.

The following transfers of funds are sanctioned :—

Provincial.
43. Minor Works and Navigation.
Irrigation and Navigation.
Works for which neither Capital nor Revenue Accounts are kept.
Ordinary Works.

From	RS.	*To*	RS.
Minor Original Works.		Repairs.	
Bellary	1,000	Madura	1,000
Original Works. Trichinopoly Division. Wyacondan Channel.		Trichinopoly.	
Pulivalam surplus sluice, enlarging ...	183	Minor Original Works	183
Tank Restoration Works.			
Minor Original Works.		Repairs.	
Madura	3,000	Kurnool	3,000
Agricultural Works.			
River Embankment. Tanjore Division.		River Embankment. Tanjore Division.	
Cauvery and its branch, fixing mile and furlong stones	500	Cauvery right bank, Vennár head, to Kodumurty, and left bank from Grand Anicut to Triviar bridge ...	500

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
„ Superintending Engineer, III Circle.
„ „ „ VI „
„ Examiner, Public Works Accounts.
„ Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of (1888) Madras.

PUBLIC WORKS.

Dated February, 16th.

Recd. *Encl.*

G.O., 16th Feb. 1888, No. 109 I.

FEBRUARY.

Transfers of Funds

Certain — under Provincial, 43. Minor Works and Navigation, sanctioned.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

READ—the following papers :—

Endorsement from the Superintending Engineer, II Circle, dated 26th January 1888, No. 370 B.C.

No. 28 I.

Note by the Chief Engineer for Irrigation.

The tonnage of cargo entered at present in the returns of traffic on the Buckingham canal is the gross registered tonnage of each laden boat, while in the Godávari and Kistna deltas the actual tonnage of the goods transported is entered, the information being obtained from the boat people. Mr. G. D. Wybrow, while in charge of the II Circle, remarked in his inspection notes from 9th to 30th June 1887 on the want of uniformity in the system of recording traffic. Subsequently Mr. Rundall, in his letter, No. 306 B.C., dated 9th November 1887, reported that the introduction on the Buckingham canal of the system obtaining in the Godávari and Kistna deltas would not only necessitate the employment of additional establishment but would also cause unnecessary interference and inconvenience to the traffic on the canal which has no locks at short distances as in the deltas.

2. The Executive Engineer, Buckingham Canal Division, in his letter forwarded by the Superintending Engineer with his endorsement, No. 370 B.C., dated 26th January 1888, points out that the principal station for registering traffic on this canal is Madras, and the inward and outward traffic registered at this station constitutes at least 95 per cent. of the total traffic on the canal. This traffic is best registered once for all at Madras as now, and no fresh registration of through boats is required at intermediate wharves unless they stop at the wharves; boats not stopping may be allowed to pass as now without interference.

3. It is right that traffic on all the navigable canals in the Presidency should be recorded on one and the same system. The present method of recording traffic on the Buckingham canal should not therefore be allowed to continue and should be altered to agree with that adopted in the Godávari and Kistna deltas from the commencement of next official year. Should these alterations involve an increase of clerical work, the Superintending Engineer may submit for the sanction of Government an application for the extra clerk required.

BEZVADA,
9th February 1888.

(Signed) H. R. MEAD, Colonel, R.E.,
Chief Engineer for Irrigation.

To the Joint Secretary to Government,
Public Works Department, Irrigation Branch.

ORDER—dated 16th February 1888, No. 110 I., Public Works.

The actual tonnage of cargo carried on the Buckingham canal as ascertained from the boat people will, from the commencement of next official year, be recorded in traffic

returns instead of the registered tonnage of each laden boat as hitherto. No fresh registration of through boats at intermediate stations of the canal is necessary.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, II Circle.
" Examiner, Public Works Accounts.
" Revenue Department.
" Chairman, Chamber of Commerce.

IRRIGATION.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 16th.

Recd. *Encl.*

G.O., 16th Feb. 1888, No. 110 I.

FEBRUARY.

Buckingham Canal

Issuing instructions regarding the record of the actual tonnage of cargo carried on the — in traffic returns.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following papers :—

From J. W. RUNDALL, Esq., M.I.C.E., Superintending Engineer, VI Circle, to the Chief Engineer for Irrigation, dated Trichinopoly, 7th February 1888, No. 2003 T.J. :—

I have the honor to request the sanction of Government to the following modification of allotments proposed with reference to your No. VI/4 T.J., dated 12th January 1888 :—

—	Existing grant.	Modification of allotment applied for.		Modification of allotment proposed.	
		Reduction.	Increase.	Reduction.	Increase.
	RS.	RS.	RS.	RS.	RS.
42. Major Works. Working Expenses. Negapatam Division.					
(1) Maintenance and repairs	27,050	3,000	..	3,000	..
(2) Tools and plant	200	..	66	..	66
Provincial—Irrigation. 43. Minor Works and Navigation. Agricultural Works. Works for which neither Capital nor Revenue Accounts are kept. Original Works. River Embankment. Tinnevelly Division.					
(3) Támbraparni right bank below Srívaikuntham anicut (*vide* item No. 58 in the budget)	2,000	400	..	400	..
(4) Támbraparni left bank below Srívaikuntham anicut for first $7\frac{1}{2}$ miles (*vide* item No. 59 in the budget) ..	1,784	1,782	..	1,782	..
Trichinopoly Division.					
(5) River Embankment, Repairs	11,117	..	2,182	..	2,182

(1) The Executive Engineer reports that, with the late rains and continued water in the river, he does not expect to utilise more than Rs. 8,662 by the 31st March next from the unexpended balance of Rs. 11,662 from the existing grant; hence the surrender of Rs. 3,000.

(2) This sum is required to cover the expenditure already incurred in excess of the existing grant.

(3) There is no likelihood of paying the compensation before the close of the official year; hence the surrender.

(4) Nothing can be spent during the current official year, as the Collector has reported that the lands cannot be handed over before the close of the year.

(5) The sum now applied for, and which may be transferred from items 3 and 4, is intended to meet in part the demands for emergent repairs to the river embankments in the division.

From G. T. WALCH, Esq., Superintending Engineer, I Circle, to the Chief Engineer for Irrigation, dated Itikevalsa, 1st February 1888, No. 2473-G.D.

I have the honor to request that, if possible, a grant of Rs. 4,500 * may be allotted to the Godávari Eastern division under Tools and Plant, Major Works (Working Expenses), in addition to the existing grant, and that of Rs. 4,500 proposed to be transferred from the Godávari Western and Government Workshops, Dowlaishweram. The additional allotment the Division officer says is required to cover the liabilities already incurred for urgent repairs executed to dredges and dredge punts, &c.

* Rs. 1,500 from Western division (see this office No. 331 G.L., dated 6th December 1887).
Rs. 3,000 from Workshops (see this office No. 2446 G.D., dated 25th January 1888).

ORDER—dated 17th February 1888, No. 114 I., Public Works.

The following transfers of funds are sanctioned :—

Imperial.
42. Major Works (Working Expenses).

From	RS.	*To*	RS.
Cauvery Delta. Negapatam Division.		Cauvery Delta. Negapatam Division.	
Maintenance and repairs	3,000	Tools and plant	66
Establishment	690	Godávari Delta. Eastern Division.	
		Tools and plant	3,624
Total ...	3,690	Total ...	3,690

Provincial.
43. Minor Works and Navigation.
Agricultural Works.
River Embankment.

Tinnevelly Division. Original Works.	RS.	Repairs.	RS.
Támbraparni river right bank below Srívaikuntham anicut	400	Trichinopoly	2,182
Támbraparni river left bank below Srívaikuntham anicut for first 7½ miles	1,782		
Total ...	2,182	Total ...	2,182

2. The Superintending Engineer, VI Circle, should have reported the surrender earlier and the Superintending Engineer, I Circle, should not have allowed liabilities to be incurred in excess of sanctioned allotments. There are no funds available to meet the balance of the demand for tools and plant in the Godávari Eastern division.

3 The following deferred telegram will be sent to the Government of India :—

"Please note transfer of Rs. 3,624 from Cauvery to Godávari in current year's revised estimate under 42.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, I Circle.
" " " VI "
" Examiner, Public Works Accounts.
" Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 17*th*.

Recd. *Encl.*

G.O., 17th Feb. 1888, No. 114 I.

FEBRUARY.

Transfers of Funds

Orders regarding certain —.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

Read—the following paper :—

Statement of Traffic on the Navigable Canals for the half-year ended on 30th September 1887.

Systems, sections of systems, and names of canals.	Nature of cargo.	Half-year ended on 30th September 1887. Tolls and license fees.	Laden boats.	Ton-nage.	Ton mileage.	Value of goods.	Number of: Empty boats.	Number of: Pas-senger boats.	Number of: Pas-sengers.	Half-year ended on 30th September 1886. Tolls and license fees.	Laden boats.	Ton-nage.	Ton mileage.	Value of goods.	Number of: Empty boats.	Number of: Pas-senger boats.	Number of: Pas-sengers.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Godavari Delta.		RS.				RS.				RS.				RS.				
Eastern Section.																		
Cocanada canal	Food-grains, salt, cotton, oil-seeds, nuts, oil, hemp, building materials, fuel, railway plant and miscellaneous.	43,596	2,327	54,097	543,094	22,39,023	1,001	2,261	21,858	46,157	1,711	41,793	482,599	9,79,212	1,306	1,957	13,158	A large quantity of railway materials was conveyed for the lines under construction in the Kistna district, and there was an increase in the trade of cotton and oil-seeds.
Sámalkót do.			520	8,364	179,502	1,24,566	503	177	712		652	9,827	223,618	2,75,327	581	399	2,906	
Mundapetta canal			239	4,399	43,314	47,103	297	475	8,881		300	2,387	23,468	39,938	501	476	4,215	
Coringa do			190	1,248	29,395	34,308	179	334	3,361		165	1,772	36,118	30,104	248	144	1,203	
Bank do.			135	1,463	25,020	22,473	119	468	3,340		266	3,697	79,697	22,618	239	391	4,135	
Injeram do.			4	87	696	70	25	24	..		11	76	266	1,998	22	6	..	
Total ..	......	43,596	3,415	69,658	821,021	24,67,543	2,124	3,739	38,152	46,157	3,105	59,552	845,766	13,49,197	2,897	3,373	25,617	
Central Section.																		
West Bank canal	Food-grains, salt, cotton, oil-seeds, nuts, oil, hemp, building materials, fuel, railway plant and miscellaneous.	1,647	222	2,232	56,728	64,034	181	167	1,990	1,415	180	1,464	10,169	43,066	150	48	690	
Amalápuram canal			132	6,770	55,725	1,79,239	117	770	18,922		381	6,139	9,468	1,22,954	153	936	22,050	
Gunnaram canal			191	2,962	43,917	43,359	137	215	2,471		260	4,966	10,960	61,270	324	405	7,351	
Total ..	......	1,647	545	11,964	156,370	2,86,632	435	1,152	23,383	1,415	821	12,569	30,597	2,27,290	627	1,389	30,091	
Western Section.																		
Narsápur canal	Food-grains, salt, cotton, oil-seeds, nuts, oil, hemp, building materials, fuel, railway plant and miscellaneous.	21,925	570	5,453	189,978	1,98,132	475	1,320	15,372	21,418	890	8,428	309,191	3,01,054	850	1,271	14,950	A large quantity of railway materials was conveyed for the lines under construction in the Kistna district, and there was an increase in the trade of cotton.
Gostanadi and Velpur canal ..			94	843	34,574	21,378	107	92	775		137	1,396	28,981	11,026	93	63	499	
Venkiah and Weyeru do. ..			185	1,220	53,695	48,751	227	12	82		115	635	17,061	61,098	118	50	350	
Ellore canal			1,905	28,874	1,050,765	24,35,925	793	1,569	24,464		1,312	21,888	884,197	14,91,521	1,021	1,725	30,447	
Attili do.			39	767	10,437	43,801	24	253	2,867		74	938	13,001	39,335	51	261	2,848	
Undi do.			152	2,241	33,714	83,671	111	357	2,159		150	2,902	23,161	52,426	154	311	1,638	
Bank do.			198	1,532	35,360	29,273	243	41	240		150	1,005	19,939	37,817	218	51	480	
Total ..	......	21,925	3,143	40,930	1,408,523	28,60,951	1,980	3,644	45,959	21,418	2,828	37,192	1,295,531	19,94,277	2,505	3,732	51,212	
Total, Godávari delta ..	......	67,168	7,103	122,552	2,385,914	56,15,106	4,539	8,535	107,494	68,990	6,754	109,313	2,171,894	35,70,764	6,029	8,494	1,06,920	
Chilka Lake canal	Food-grains, salt, oil-seeds, nuts, oil and miscellaneous.	..	1,921	4,319	34,584	5,64,416	1,983	17	..	..	464	2,290	18,320	2,44,888	273	..	19	There was an increase in the trade of salt and paddy.
Dumagudiem	Food-grains, salt, cotton, oil-seeds, nuts, oil, hemp and miscellaneous.	61	216	521	..	35,548	22	2	36	96	276	831	..	48,250	40	3	23	Ton mileage was not recorded on this canal. Traffic decreased since the destruction of the scouring sluice and the lower gate of the tail lock.
Kistna Delta.																		
Eastern Section.																		
Masulipatam canal	Food-grains, salt, cotton, oil-seeds, nuts,		547	13,582	1,298,918	10,01,770	436	1,761	25,222	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Ellore canal			1,696	[illegible]	[illegible]	[illegible]												
Pamarru junction canal																		

Order—dated 21st February 1888, No. 120 I., Public Works.

Ordered that the above statement be forwarded to the Government of India.

(Here enter No. 121 I., dated 21st February 1888.)

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, I Circle.
" " " II "
" " " III "
" Examiner, Public Works Accounts.
" Revenue Department.

Endorsement—dated 21st February 1888, No. 121 I., Public Works.

Forwarded.

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secretary to Govt., P.W.D.

IRRIGATION.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 21st.

Recd. *Encl.*

G.O., 21st Feb. 1888, No. 121 I.

FEBRUARY.

Traffic

The statement of — on the navigable canals for the half-year ended 30th September 1887, forwarded to the Government of India.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

Read—the following letter from G. T. WALCH, Esq., Superintending Engineer, I Circle, to the Chief Engineer, Public Works Department, dated Potinghi, 25th January 1888, No. 2456 G.D. :—

I have the honor to request that you will be good enough to obtain the sanction of Government for closing the Dumagudiem canal from 15th March to 15th June 1888 for silt clearance and repairs, and will have the same notified in the *Fort St. George Gazette*.

Order—dated 21st February 1888, No. 122 I., Public Works.

Sanctioned. The accompanying notification will be published in the *Fort St. George Gazette* :—

CLOSURE OF DUMAGUDIEM CANAL.

Notice is hereby given that the Dumagudiem Canal in the Godávari District will be closed for repairs from 15th March to 15th June 1888.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
,, Superintending Engineer, I Circle.
,, Revenue Department.

IRRIGATION.

Govt. of (1888) Madras.

PUBLIC WORKS.

Dated February, 21st.

Recd. *Encl.*

G.O., 21st Feb. 1888, No. 122 I.

FEBRUARY.

Dumagudiem Canal

Sanctioning the proposal to close the — from the 15th March to 15th June 1888 for silt clearance and repairs, and ordering the notification of the same in the *Fort St. George Gazette.*

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

Read—the following papers :—

From J. W. MARTIN, Esq.; Officiating Superintending Engineer, IV Circle, to the Chief Engineer for Irrigation, dated Coimbatore, 7th January 1888, No. 2 E.I.

I have the honor to submit the final statements of modification of allotments of the irrigation works in the Coimbatore division.

Enclosure.

Statement showing the Modification of Allotments for Barúr Project Works for 1887-88.

Division.	Main and sub-heads.	Name of work.	Amount of estimate.	Outlay up to 31st March 1887.	Balance of estimate.	Existing grant for 1887-88.	Outlay during 1887-88 up to 30th November 1887.	Modification of allotments applied for. Reduction.	Modification of allotments applied for. Increase.	Proposed grant as it now stands.	Remarks.
			RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	
		CAPITAL EXPENDITURE ON PUBLIC WORKS NOT CHARGED AGAINST REVENUE.									
		Irrigation.									
		Barúr Project Works.									
		I. Head Works.									
Coimbatore.	I C	Anicut across Ponniár near Nedingal.	22,905	12,265	10,640	5,000	836	1,164	..	3,836	To meet expenditure to end of current official year.
		II. Main Canals and Branches.									
	II L	New head to Agaram channel.	3,525	1,741	1,784	1,784	117	384	..	1,400	This sum will cover all expenditure up to end of current official year.
	II D	Head-sluice to Barúr tank supply channel.	6,338	3,068	3,270	3,188	1,878	..	82	3,270	To complete the work.
	II G	Constructing 7 bridges to Barúr tank supply channel.	5,131	2,395	2,736	2,700	1,335	700	..	2,000	To meet the cost of work up to end of March 1888.
		II-A. Tanks and Reservoirs.									
	II A-L.	Constructing Barúr tank bund.	66,620	61,488	5,138	4,000	3,738	..	500	4,500	Do. do.
		III. Distributaries.									
	III C.	Keelcooppam Eastern sluice.	3,235	3,084	151	70	71	..	1	71	Work completed.
	III C.	Do. Western do.	3,167	2,596	571	500	150	150	..	350	This sum will suffice to complete the work.
	III C.	Aqueduct to Keelcooppam channel.	2,575	1,687	888	888	299	288	..	600	Do. do.
	III C.	Thirty-five outlets and six terminals.	14,636	3,646	10,990	500	523	..	150	650	Materials will be collected for two outlets in the 4th mile.

Statement showing the Modification of Allotments for Barúr Project Works for 1887-88—*cont.*

Division.	Main and sub-heads.	Name of work.	Amount of estimate.	Outlay up to 31st March 1887.	Balance of estimate.	Existing grant for 1887-88.	Outlay during 1887-88 up to 30th November 1887.	Modification of allotments applied for. Reduction.	Modification of allotments applied for. Increase.	Proposed grant as it now stands.	Remarks.
			RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	
		CAPITAL EXPENDITURE ON PUBLIC WORKS NOT CHARGED AGAINST REVENUE—*cont.*									
		Irrigation—*cont.*									
		Barúr Project Works—cont.									
		III. Distributaries—*cont.*									
Coimbatore—*cont.*	III C.	Tunnels and bridges ..	1,912	224	1,688	4	3	..	100	104	Materials will be collected for the bridge in the 4th mile.
	III L.	Keelcooppam west channel.	3,350	2,375	975	700	219	300	..	400	To complete the work.
	III L.	Keelcooppam west branch channel.	1,187	593	594	300	60	140	..	160	Do. do.
	III L.	Keelcooppam east main channel.	24,906	5,477	19,429	4,154	2,588	..	1,345	5,499	To meet the cost of work, to end of March 1888.
	III K.	Constructing three lines of huts for the use of the work people on the head works at Nedingal.	501	..	501	350	315	..	20	370	To meet the cost of work already done.
	III C. & L.	Constructing an Irrigation channel from the new west sluice to the old east sluice of Barúr tank.	398	..	398	..	196	..	398	398	Sanctioned in G.O., No. 570 I., of 24th September 1887.
		Constructing five crossings at lines of traffic over west Irrigation channel from Barúr tank.	530	..	530	..	..	..	530	530	Estimate will follow.
		Total ..	..	..	..	..	..	3,126	3,126	..	

Coimbatore,
3rd January 1888.

(Signed) G. B. LAMBERT,
Executive Engineer.

(Signed) J. W. MARTIN,
Offg. Superintending Engineer, IV Circle.

No. 29 I.

Submitted to Government with the recommendation that the modifications of allotments under 48, Irrigation, shown in the statement for the Barúr Tank Project as altered in this office, and the following transfers of funds under 43, Minor Works and Navigation, may be sanctioned :—

Irrigation and Navigation.

Works for which neither Capital nor Revenue Accounts are kept.

From	RS.	*To*	RS.
Minor original works—		Minor original works—	
Coimbatore	51	Salem	51
Repairs—		Major original works, Coimbatore—	
Salem	1,355	Pullapoliem channel, improving last $8\frac{3}{4}$ miles	1,355

Agricultural Works.
Coimbatore Division.

	RS.		RS.
Minor original works—		Repairs—	
River conservancy	359	River conservancy	399
Miscellaneous	40		
Total ...	399	Total ...	399

There are no funds available to meet the rest of the demands.

Chepâk,
13th February 1888.

(Signed) J. P. DAVIDSON,
for Chief Engineer for Irrigation.

To the Joint Secretary to Government,
Public Works Department, Irrigation Branch.

Order—dated 21st February 1888, No. 123 I., Public Works.

The modifications of allotments for works of the Barúr project and the transfers of funds recommended by the Chief Engineer for Irrigation are sanctioned.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, IV Circle.
" Examiner, Public Works Accounts.
" Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated Febrbaruy, 21*st*.

Recd. *Encl.*

G.O., 21st Feb. 1888, No. 123 I.

FEBRUARY.

Funds

Certain modifications of allotments for works of the Barúr Project and certain transfers of funds recommended by the Chief Engineer for Irrigation, sanctioned.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

Read—the following letter from H. S. TAYLOR, Esq., Executive Engineer, Periyár Project, to the Chief Engineer for Irrigation, dated Thekady, 10th February 1888, No. 628 P.R. :—

With reference to your memorandum, No. VI/10 M.D., dated 3rd February 1888, I have the honor to submit, for the approval of Government, a statement showing by component works the distribution of the total grant of Rs. 96,225 for expenditure on works.

Enclosure.

Statement showing by component works the distribution of the total grant of Rs. 96,225 for expenditure on works.

Departmental and service head.	Proposed grant.							
	Item number of budget.	Works.	Amount of estimate.	Outlay to end of previous year.	Original grant for the current year.	Existing grant for the current year.	Proposed increase.	Grant as now proposed.
	G.O., No. 2314 W., dated 28th August 1887.	48. CAPITAL EXPENDITURE NOT CHARGED AGAINST REVENUE.	RS.	RS.	RS.	RS.	RS.	RS.
		Irrigation and Navigation.						
		I. Works.						
		Head Works.						
		A. Preliminary expenditure ..	80,000	..	5,000	5,000	8,225	13,225
		C. Main dam in Periyár valley ..	6,91,000	..	..	..	6,000	6,000
		C. Right bank escape	1,37,000	..	..	..	9,000	9,000
		C. Water-shed cutting	1,20,000	..	..	..	40,000	40,000
		C. Water-shed tunnel	2,61,000	..	..	..	1,000	1,000
		K. Buildings	1,47,000	..	20,000	20,000	2,000	18,000
		O. Miscellaneous.						
		Road and foot paths	46,000	..	25,000	25,000	16,000	9,000
		Total ..	..	..	..	..	..	96,225

Madura,
10th February 1888.

(Signed) H. S. TAYLOR,
Executive Engineer, Periyár Project.

Order—dated 22nd February 1888, No. 126 I., Public Works.

The statement showing the distribution by component works of the existing grant of Rs. 96,225 for the Periyár Project under 48, Irrigation, is approved.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Executive Engineer, Periyár Project.
" Examiner, Public Works Accounts.
" Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 22nd.

Recd. *Encl.*

G.O., 22nd Feb. 1888, No. 126 I.

FEBRUARY.

Periyar Project

The statement showing the distribution by component works of the existing grant of Rs. 96,225 for the — under 48, Irrigation, approved.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following letter from G. T. WALCH, Esq., Superintending Engineer, I Circle, to the Chief Engineer for Irrigation, dated Potinghi, 23rd January 1888, No. 2449 G.D. :—

I have the honor to submit for sanction the accompanying estimate of Rs. 450 for constructing Malikipuram channel head-sluice on the Gannaram canal in the Godávari Central division. The amount of this estimate is less by Rs. 50 than the provision (Rs. 500) made for the work in the delta project estimates, and the saving can be added to the balance available for unforeseen works.

ORDER—dated 23rd February 1888, No. 127 I., Public Works.

The following estimate is sanctioned in lieu of the provision of Rs. 500 made for the work in the delta completion estimates, the saving of Rs. 50 effected by the present estimate being added to the balance of the amount reserved for unforeseen works, which will then be raised to Rs. 19,468 :—

Capital Expenditure on Public Works (not charged against Revenue).
48. Irrigation.
Godávari Delta System.
Central Section.
I. Works.
Gannaram Canal.
3. Distributaries.
C. Works.

Constructing Malikipuram channel head-sluice, estimate ... ... Rs. 450

2. This sanction has been registered as No. 125 I. of 1887-88.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, I Circle, with two enclosures.
" Examiner, Public Works Accounts.
" Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 23rd.

Recd. *Encl.*

G.O., 23rd Feb. 1888, No. 127 I.

FEBRUARY.

Gannaram Canal

Estimate for constructing Malikipuram channel head-sluice on the — in the Godávari Central division, sanctioned with remarks.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

Read—the following letter from Colonel H. M. VIBART, R.E., Superintending Engineer, V Circle, to the Chief Engineer for Irrigation, dated Panushavalay, 6th February 1888, No. 4674 :—

With reference to your memorandum, No. 19 V., dated 19th December 1887, I have the honor to submit for sanction under the head "Works for which Capital and Revenue Accounts are kept" a revised estimate of Rs. 390 for temporary survey establishment required for surveying Vayalur tank project in the Chingleput division in lieu of the estimate of Rs. 430 cancelled in the memorandum above quoted.

2. The revised estimates for the survey establishment of the other two works —surveying Uttaramallur channel and Narrainavaram river embankment—have been locally sanctioned under the head "Works for which Capital and Revenue Accounts are not kept" to which they appertain.

Order—dated 23rd February 1888, No. 128 I., Public Works.

The following revised estimate is sanctioned in supersession of the estimate of Rs. 430 sanctioned in G.O., No. 244 I., dated 29th March 1887 :—

Irrigation.
43. Minor Works and Navigation.
Irrigation and Navigation.
Works for which Capital and Revenue Accounts are kept.
Vayalur Project.
Capital Account.
A. Preliminary Expenses.

Revised estimate of Temporary Survey establishment ... ... Rs. 390

2. This sanction has been registered as No. 126 I. of 1887-88.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, V Circle, with one enclosure.
" Examiner, Public Works Accounts.
" Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 23rd.

Recd. *Encl.*

G.O., 23rd Feb. 1888, No. 128 I.

FEBRUARY.

Survey Establishment

Revised estimate for temporary— required for surveying Vayalur tank project in the Chingleput division, sanctioned.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

READ—the following papers :—

From Colonel R. HOME, R.E., Deputy Secretary to the Government of India, Public Works Department (Civil Works—Irrigation), to the Secretary to the Government of Madras, Public Works Department, dated Fort William, 29th November 1887, No. 207 I.

I am directed to acknowledge the receipt of your letter, No. 544 I., of 3rd September 1887, requesting the orders of the Government of India on the question of the debit of cost of temporary subordinate establishment specially engaged in connection with land acquisition to work under officers of the Revenue Department not placed at the disposal of the Public Works Department.

2. In reply, I am directed to state that in the cases provided for in the Civil Account Code, rule 5, chapter VI, *i.e.*, when the civil officer is made a Public Works disburser, there is no objection to any special establishment entertained by him (under orders of Government) being charged to the works concerned. But if he is not a Public Works disburser, then the charges should be brought to account in the Civil Department and should not be debited to the Public Works Department.

Office note from the Examiner, Public Works Accounts, dated 20th Dec. 1887, No. 901.
" " Chief Secretary to Government, dated 24th January 1888.

ORDER—dated 23rd February 1888, No. 129 I., Public Works.

The Government of India will be addressed in the Financial Department in view to the decision conveyed in paragraph 2 of the foregoing letter being reconsidered in that department. In the meantime the Examiner of Public Works Accounts will continue to pass as hitherto the charges for the land acquisition establishment employed under civil officers whose services have not been placed at the disposal of this department.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Financial Department.
" Revenue "
To Superintending Engineers.

IRRIGATION.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 23rd.

Recd. *Encl.*

G.O., 23rd Feb. 1888, No. 129 I.

FEBRUARY.

Acquisition of Land

Passing orders with reference to the decision of the Government of India on the question of the debit of cost of temporary subordinate establishment specially engaged in connection with the — to work under officers of the Revenue Department not placed at the disposal of the Public Works Department.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following paper :—

No. 30 I.

Note by the Chief Engineer for Irrigation.

In their letter, No. 108 A.I., dated 17th December 1887, the Government of India desired to be informed what modifications of the grants for next year under 48. Irrigation would be required owing to the restriction to commence any new irrigation work which would involve a liability in future years. This letter was communicated with G.O., No. 3 I., dated 5th January 1888, to the Superintending Engineers, I, II, IV and VI Circles, for early report. The Superintending Engineers, IV and VI Circles, replied that the grants proposed for works in their circles need no modification. The Superintending Engineer, II Circle, applied for instructions as to whether the excavation of the Bank canal in the Kistna Eastern division should be postponed. As the restriction placed by the Government of India does not apply to this work which has already been commenced, and as it is desirable that the delta completion works should be pushed forward as far as possible, the Superintending Engineer has been directed to proceed with the excavation of the canal. The Superintending Engineer, I Circle, and the Superintendent of Works, Periyár Project, have not yet replied to the reference. The works of the Godávari delta are nearly completed, and it is concluded that the restriction has no reference to the Periyár project, the commencement of which has recently been sanctioned by the Government of India after long and careful consideration. Under these circumstances, it is suggested that the Government of India may be informed that no reduction of the grants for next year under 48. Irrigation is feasible.

CHEPÂK,
20th February 1888.

(Signed) H. R. MEAD, Colonel, R.E.,
Chief Engineer for Irrigation.

To the Joint Secretary to Government,
Public Works Department, Irrigation Branch.

ORDER—dated 23rd February 1888, No. 130 I., Public Works.

The following deferred telegram will be sent to the Government of India :—

"Your letter, No. 108 A.I., 17th December last. No reduction in next year's grant under 48. Irrigation feasible."

2. Ordered that a copy of these proceedings be forwarded to the Government of India for information.

(Here enter No. 131 I., dated 23rd February 1888.)

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, I Circle.
" " " II "
" " " IV "
" " " VI "
" Superintendent of Works, Periyár Project, with copy of G.O., No. 3 I., dated 5th January 1888.
" Examiner, Public Works Accounts.
" Revenue Department.

ENDORSEMENT—dated 23rd February 1888, No. 131 I., Public Works.

Forwarded.

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

IRRIGATION.
ACCOUNT.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 23rd.

Recd. *Encl.*

G.O., 23rd Feb. 1888, No. 131 I.

FEBRUARY.

Irrigation Works

Forwarding copy of proceedings stating that no reductions can be made in the grants for next year under 48. Irrigation.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following letter from Colonel H. M. VIBART, R.E., Superintending Engineer, V Circle, to the Chief Engineer for Irrigation, dated Tirukoilúr, 4th February 1888, No. 4646 :—

I have the honor to submit for sanction the following statements of deviations from the estimate printed in G.O., No. 561 I., dated 13th June 1884, belonging to the Pálár Anicut System in the North Arcot division :—

1. Constructing drop No. 1 at 2nd mile of Kambakal channel.
2. Do. drop No. 2 at 6 miles 43 chains on Kambakal channel.

ORDER—dated 24th February 1888, No. 135 I., Public Works.

The deviation statements for constructing drop weirs Nos. 1 and 2 of the Kambakal channel, Pálár Anicut System, are sanctioned, the saving of Rs. 400 effected thereby being added to the balance of the amount reserved for unforeseen works, which will then be increased to Rs. 2,198.

2. This sanction has been registered as No. 127 I. of 1887-88.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
,, Superintending Engineer, V Circle.
,, Examiner, Public Works Accounts, with two enclosures.
,, Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of (1888) Madras.

PUBLIC WORKS.

Dated February, 24th.

Recd. *Encl.*

G.O., 24th Feb. 1888, No. 135 I.

FEBRUARY.

Kambakal Channel, Palar Anicut System

Deviation statements for constructing drop weirs of the —, sanctioned.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following letter from G. T. WALCH, Esq., Superintending Engineer, I Circle, to the Chief Engineer for Irrigation, dated 19th January 1888, No. 712 G.N. :—

	Estimate. RS.
1. Repairing the store shed at Pudmapur.	60
2. Repairing the roof of the bungalow and out-houses at Errandra	51
3. Repairing the store shed at Janamilli..	120
4. Repairing the bungalow and out-houses at Doegam	136
Total ...	367

I have the honor to submit herewith four estimates for the works noted in the margin, amounting to Rs. 367, in connection with the Rushikulya project, and to request that you will be good enough to obtain the sanction of Government to the same.

2. The amount of these estimates is to be met from the lump sum provision (Rs. 15,625) sanctioned in G.O., No. 220 I., dated 9th March 1883, for the Rushikulya project under P. Maintenance and Repairs.

3. The original construction of the first three works was charged to the contingencies of the Rushikulya canal, and the fourth work was sanctioned in G.O., No. 527 I., dated 2nd June 1884.

ORDER—dated 24th February 1888, No. 136 I., Public Works.

The following estimates are sanctioned from the lump sum provision of Rs. 15,625 made for maintenance during construction in the sanctioned estimate for the Rushikulya project :—

Famine Relief and Insurance.
35. Construction of Protective Irrigation Works.
Rushikulya Project.
I. Works.
(1) Head Works.
P. Maintenance.

			RS.
1.	Repairing	store shed at Pudmapur	60
2.	Do.	the roof of the bungalow and out-houses at Errandra ...	51
3.	Do.	store shed at Janamilli	120
4.	Do.	the bungalow and out-houses at Doegam	136
		Total ...	367

2. This sanction has been registered as No. 128 I. of 1887-88.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
,, Superintending Engineer, I Circle, with four enclosures.
,, Examiner, Public Works Accounts.
,, Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of (1888) Madras.

PUBLIC WORKS.

Dated February, 24th.

Recd. *Encl.*

G.O., 24th Feb. 1888, No. 136 I.

FEBRUARY.

S tore Sheds and Bungalows

Estimates for repair of certain — connected with the Rushikulya project, sanctioned.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following letter from H. S. TAYLOR, Esq., Executive Engineer in charge of Periyár Project, to the Chief Engineer, Public Works Department, dated Tekadi, 26th January 1888, No. 587 P.R.:—

I have the honor to forward herewith two estimates, one for Rs. 520 and another for Rs. 1,843, respectively, for purchasing a theodolite with stand and two rock-drilling machines for use of the Periyár Project works, and request that you will be good enough to sanction the same at your early convenience under paragraph 1663 of the Public Works Code.

ORDER—dated 27th February 1888, No. 137 I., Public Works.

The following estimates are sanctioned from the lump sum provision of Rs. 66,200 made for minor and unforeseen items in the estimate of Rs. 4,50,000 for tools and plant sanctioned in G.O., No. 51 I., dated 23rd January 1888. The balance still available under this head is Rs. 63,187 as shown in the margin :—

	RS.	RS.
Total lump sum provision		66,200
Deduct—		
Estimate sanctioned in G.O., No. 585 I., dated 30th September 1887	650	
Amount now sanctioned	2,363	
		3,013
Balance ...		63,187

Capital Expenditure on Public Works (not charged against Revenue).
48. Irrigation.
Periyár Project.
III. Tools and Plant.
12. Miscellaneous.

	RS.
1. Purchasing two rock-drilling machines	1,843
2. Do. one theodolite	520
Total ...	2,363

2. This sanction has been registered as No. 129 I. of 1887-88.

(True Extract).

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintendent of Works, Periyár Project, with two enclosures.
" Examiner, Public Works Accounts, with two duplicate abstract estimates.
" Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 27th.

Recd. *Encl.*

G.O., 27th Feb. 1888, No. 137 I.

FEBRUARY.

Periyar Project Works

Estimates for the purchase of a theodolite with stand and two rock-drilling machines for use of the —, sanctioned.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following letter from J. HANNAN, Esq., Superintending Engineer, II Circle, to the Chief Engineer for Irrigation, dated Bezváda, 31st January 1888, No. 1832 K.S. :—

In continuation of this office telegram of the 27th instant, I have the honor to forward herewith a third statement of modifications of irrigation allotments in the Kistna Eastern division showing a surrender of Rs. 15,216 under I. Works, Capital Account, Kistna Delta System, and to request you will be good enough to obtain the sanction of Government to the same.

ENCLOSURE.

STATEMENT showing the modifications of Irrigation, &c., allotments for 1887-88.

Division.	Main or sub-head.	Name of work.	Existing grant.	Modifications of allotments applied for. Reduction.	Modifications of allotments applied for. Increase.	Modification proposed. Reduction.	Modification proposed. Increase.	Remarks.
			RS.	RS.	RS.	RS.	RS.	
		CAPITAL EXPENDITURE ON PUBLIC WORKS NOT CHARGED AGAINST REVENUE.						
		48. IRRIGATION.						
	1 C.	Reflooring with black granite under-sluices, Bezváda.	2,900	— 300	..	..	..	
		Pulleru Canal.						
	(2) L.	Raising banks	250	— 242	..	..	..	
Kistna, Eastern.	(3) C.	Head-sluice, Sayarazulunka Kodu.	600	— 600	..	..	..	Estimates not prepared, nor can materials be got down this season.
		Head-sluice, Kanchadam Kodu.	600	— 600	..	..	..	
		Polraz Canal.						
	2 I.	Vingeram lock	250	— 250	..	..	..	
	2 L.	Improving and widening canal.	3,000	—1,388	..	..	..	
	..	Widening first three miles ..	6,000	—6,000	..	..	..	
	3 L.	Seetanapalli channel.. ..	1,500	— 91	..	..	..	
		Ryves' Canal.						
	3 C.	Twelve small sluices	3,000	— 500	..	..	..	
		Bridge, third mile, Kunderu channel.	1,000	— 500	..	..	..	
		Head-sluice, Lingavaram channel.	350	— 100	..	..	..	
		Road dam, 8½th mile of Kunderu channel.	300	— 100	..	..	..	
		Drop, 6th mile of Kunderu channel.	360	— 100	..	..	..	

Statement showing the modifications of Irrigation, &c., allotments for 1887-88.—*cont.*

Division.	Main or sub-head.	Name of work.	Existing grant.	Modifications of allotments applied for.		Modification proposed.		Remarks.
				Reduction.	Increase.	Reduction.	Increase.	
Kistna, Eastern—*cont.*		CAPITAL EXPENDITURE ON PUBLIC WORKS NOT CHARGED AGAINST REVENUE—*cont.*	RS.	RS.	RS.	RS.	RS.	
		48. IRRIGATION—*cont.*						
		Ryves' Canal.—cont.						
		Head-sluice to Idupalli channel.	500	— 100	..	..	..	
	4 C.	Culvert over catch drain ..	500	— 500	..	..	..	Nothing could be spent this year. The side drain not yet excavated
	4 C.	Bridge 5-15⅓ on Polraz drain..	1,000	—1,000	..	..	..	Estimates to be revised and materials cannot be got down now.
		Do. 0-70 Palakodu affluent.	1,000	—1,000	..	..	..	
	4 O.	Crossing along Dammidi drain.	156	— 136	..	..	..	
		Masulipatam Canal.						
	2 L.	Stone drains	200	— 50	..	..	..	
		Ellore Canal.						
	2 G.	Kesarapalli bridge ..	2,000	—2,000	..	..	..	Plans and estimates are under revision. Probably nothing to be spent this official year.
	3 B.	Madepalli channel compensation.	1,642	— 42	..	..	..	
	C.	Do. culvert ..	900	— 820	..	..	..	The amount allowed in the estimates for dressed faces is quite insufficient and they have to be revised.
		Do. under-tunnel..	..	..	200	..	..	
		Do. drop 0·65 ..	100	— 40	..	..	..	
		Do. culvert 0·65 ..	500	— 300	..	..	..	
		Do. drop 2·22 ..	80	— 30	..	..	..	
		Do. drop 2·48 ..	80	— 30	..	..	..	
		Do. nine minor sluices.	200	— 100	..	..	..	
	3 L.	Do. excavation ..	2,097	— 1,497	..	..	..	
		Bank Canal.						
	2 L.	Excavation	5,000	..	3,000	..	..	
			..	—18,416	3,200	..	..	
		Net surrender ..	..	—15,216	..	..	..	

BEZVADA,
31st January 1888.

(Signed) J. HANNAN,
Superintending Engineer, II Circle.

ORDER—dated 27th February 1888, No. 138 I., Public Works.

The total amount surrendered, which was reported by the Superintending Engineer in his telegram, dated 30th January 1888, has already been transferred to the Periyár Project (*vide* G.O., No. 99 I., dated 7th February 1888). The statement showing the component works from the grants of which the surrender was made is approved and will be communicated to the officers concerned for information.

(True Extract.)

(Signed) H R. MEAD, Colonel R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, II Circle.
" Superintendent of Works, Periyár Project.
" Examiner, Public Works Accounts.
" Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 27th.

Recd. *Encl.*

G.O., 27th Feb. 1888, No. 138 I.

FEBRUARY.

Funds

Orders on letter from the Superintending Engineer, II Circle, forwarding statement of modifications of Irrigation allotments in the Kistna Eastern division for 1887-88.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

Read—the following letter from C. F. MacCARTIE, Esq., Acting Collector of Tinnevelly, to the Secretary to Government, Public Works Department, dated Tinnevelly, 7th February 1888, No. 75:—

As an area to the extent of 4 acres 69 cents in the villages noted in the margin in Ambásamudram taluk is required for the improvement of Kakanallur channel, the acquisition of which, under Act X of 1870, is desirable in order to ensure to Government an indefeasible title, I have the honor to forward a draft declaration under section 6 of the said Act for publication in the *Fort St. George Gazette*, and the issue of instructions to the Collector authorising him to take order for the acquisition of the land.

	ACRES.
Tiruvaliswaram	1·28
Mannarkoil	2·10
Brahmadesam	1·31
Total ...	4·69

Order—dated 29th February 1888, No. 143 I., Public Works.

Ordered that the notification be published in the *Fort St. George Gazette*.

2. The Collector will take order for the acquisition of the lands in accordance with the provisions of Act X of 1870.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
„ Superintending Engineer, VI Circle.
„ Revenue Department.

IRRIGATION.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 29th.

Recd. *Encl.*

G.O., 29th Feb. 1888, No. 143 I.

FEBRUARY.

Acquisition of Land

Orders regarding the acquisition of certain lands required for the improvement of Kokanallur channel in Ambásamudram taluk, Tinnevelly district.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

Read—the following papers:—

Proceedings of the Board of Revenue (Land Revenue), dated 23rd January 1888, No. 59.

H. S. Thomas, Esq., F.L.S., F.Z.S.

Read—the following letter from A. T. ARUNDEL, Esq., Collector of the Kistna District, to the Secretary to the Commissioners of Land Revenue, dated Masulipatam, 11th January 1888, No. 162:—

An extent of 108$\frac{8}{9}$ square yards is required by the Public Works Department for the Kistna river left embankment in Bhadrirazupalem, hamlet of Vallur, Bezváda taluk. I have the honor to send, for sanction, a draft declaration under sections 3, 6 and 7 of Act X of 1870.

Enclosure No. 1.—Draft notification.

Resolution—dated 23rd January 1888, No. 59.

Submitted to Government with the request that the draft notification may be ordered to be published in the *Fort St. George Gazette.*

(A true Copy and Extract.)

(Signed) R. S. BENSON,
Acting Secretary.

No. 854, Revenue.

Transferred to the Public Works Department (Irrigation Branch).

(By Order.)

(Signed) H. A. STUART,
Under Secy. to Govt.

Fort St. George,
6th February 1888.

Order—dated 29th February 1888, No. 144 I., Public Works.

Ordered that the notification be published in the *Fort St. George Gazette.*

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, II Circle.
" Revenue Department.

IRRIGATION.

Govt. of [1888] Madras.

PUBLIC WORKS.

Dated February, 29th.

Recd. *Encl.*

G.O., 29th Feb. 1888, No. 144 I.

FEBRUARY.

Land

Ordered that the notification for the acquisition of certain — required for the Kistna river left embankment in Bhadrirazupalem in Bezváda taluk, Kistna district, be published in the *Fort St. George Gazette.*

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

READ—the following papers :—

Proceedings of the Board of Revenue (Land Revenue), dated 1st February 1888, Mis. No. 641.

Read—the following letter from the Collector of Chingleput, dated 23rd January 1888, Reference on No. 763 G. and B./L.R.

With reference to Board's Proceedings, dated 30th November 1887, No. 800, I have the honor to point out that in the first of the notifications published at page 42 of the *Fort St. George Gazette*, dated 17th instant, the particulars in columns 1 * and 2 of the schedule have been omitted against the last 11 items of it, and I request therefore that the Board will be pleased to move the Government to republish the notification with the omissions duly filled in.

* Taluk—Chingleput.
Village—Zemin Vemboorsham.

Resolution—dated 1st February 1888, Mis. No. 641.

Submitted for the orders of Government.

(A true Copy and Extract.)

(Signed) R. S. BENSON,
Acting Secretary.

Mis. No. 855, Revenue.

Transferred to the Public Works Department (Irrigation Branch).

(By Order.)

FORT ST. GEORGE, (Signed) H. A. STUART,
6th February 1888. Under Secy. to Govt.

ORDER—dated 29th February 1888, No 145 I., Public Works.

Ordered that the revised notification be published in the *Fort St. George Gazette* in supersession of the first notification at page 42, part I, of the *Fort St. George Gazette*, dated 17th January 1888.

2. Paragraph 2 of G.O., dated 11th January 1888, No. 22 I., will hold good with regard to all the lands now specified.

(True Extract.)

(Signed) H. R. MEAED, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, II Circle.
" Revenue Department.

IRRIGATION.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 29th.

Recd. *Encl.*

G.O., 29th Feb. 1888, No. 145 I.

FEBRUARY.

Lands

Revised notification for the acquisition of — required for the diversion of the Buckingham canal in the Chingleput district, ordered to be published in the *Fort St. George Gazette.*

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

READ—the following papers :—

Proceedings of the Board of Revenue (Land Revenue), dated 17th January 1888, No. 30.

H. S. THOMAS, ESQ., F.L.S., F.Z.S.

Read—the following letter from A. T. ARUNDEL, Esq., Collector of the Kistna District, to the Secretary to the Commissioners of Land Revenue, dated Masulipatam, 24th December 1887, No. 6502 :—

Acres 1·56 being required for excavating a drain to join the Mustafakhan kodu in Kolavennu, Bezváda taluk, I have the honor to submit a draft declaration under sections 3, 6 and 7 of Act X of 1870.

ENCLOSURE No. 1.—Draft notification.

Resolution—dated 17th January 1888, No. 30.

Submitted to Government with the request that the draft notification may be ordered to be published in the *Fort St. George Gazette*.

(A true Copy and Extract.)

(Signed) R. S. BENSON,
Acting Secretary.

No. 723, Revenue.

Transferred to the Public Works Department (Irrigation Branch).

(By Order.)

FORT ST. GEORGE,
31st January 1888.

(Signed) H. A. STUART,
Under Secy. to Govt.

ORDER—dated 29th February 1888, No. 146 I., Public Works.

Ordered that the notification as amended be published in the *Fort St. George Gazette*.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, II Circle.
" Revenue Department.

IRRIGATION.

Govt. of (1888) Madras.

PUBLIC WORKS.

Dated February, 29th.

Recd. *Encl.*

G.O., 29th Feb. 1888, No. 146 I.

FEBRUARY.

Land

The notification for the acquisition of — required for the excavation of a drain to join the Mustafakhan kodu in Kolavennu, Bezváda taluk, ordered to be published in the *Fort St. George Gazette.*

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

Read—the following papers:—

Proceedings of the Board of Revenue (Land Revenue), dated 24th January 1888, No. 69.

H. S. Thomas, Esq., F.L.S., F.Z.S.

Read—the following letter from E. GIBSON, Esq., Acting Collector of Tanjore, to the Secretary to Government, Public Works Department (through the Commissioners of Land Revenue), dated Vallam, 16th January 1888, No. 29:—

I have the honor to inform you that a piece of land measuring 3 acres 58 cents, in the villages of Mukasa Samudram Thottam and Kesava Row Mothai Thottam, Tanjore taluk, is required for the improvement of the Vadavar, and as it is desirable, in order to ensure to Government an indefeasible title to it, to acquire the land under the provisions of the Land Acquisition Act X of 1870, I herewith forward a draft declaration under section 6 of the Act that it is needed for a public purpose, and request that you will be good enough to order the same to be published in the *Fort St. George Gazette*.

2. I further request the orders of Government for its acquisition.

Enclosure No. 1.—Draft notification.

Resolution—dated 24th January 1888, No. 69.

Submitted to Government.

(A true Copy and Extract.)

(Signed) R. S. BENSON,
Acting Secretary.

No. 825, Revenue.

Transferred to the Public Works Department (Irrigation Branch).

(By Order.)

Fort St. George,
4th February 1888.

(Signed) H. A. STUART,
Under Secy. to Govt.

Order—dated 29th February 1888, No. 147 I., Public Works.

Ordered that the notification be published in the *Fort St. George Gazette.*

2. The Collector will take order for the acquisition of the land.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, VI Circle.
" Revenue Department.

IRRIGATION.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated February, 29th.

Recd. *Encl.*

G.O., 29th Feb. 1888, No. 147 I.

FEBRUARY.

Land

Orders issued for the acquisition of — required for the improvement of the Vadavar in the Tanjore taluk, Tanjore district.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following papers :—

From J. W. RUNDALL, Esq., M.I.C.E., Superintending Engineer, VI Circle, to the Chief Engineer for Irrigation, dated Trichinopoly, 6th February 1888, No. 802 T.N.

I have the honor to forward herewith an estimate of Rs. 1,200 for constructing an inspection bungalow near the Korampullum tank, Srívaikuntham Anicut project.

2. The necessity for the work is explained in the Executive Engineer's report attached to the estimate, and I concur with Mr. Russell in considering it very desirable that there should be a bungalow in which an officer could stay while watching the tank embankment and escape. An inspection bungalow was previously constructed by Lieutenant Shepherd, R.E., when that gentleman was the Executive Engineer, in charge of the project, but it was placed above the tank and was useful only while the bund and escape were in progress. As the bund could not be reached from it when the tank was full without going a very considerable distance round, I dare say its upkeep has been abandoned; there is no allusion to it in the Executive Engineer's report.

3. As regards funds to pay for the work, the Sub-Collector, Tinnevelly, in a letter, dated 16th June 1887, informed the Executive Engineer that a sum of Rs. 1,723–12–10, formerly realised by sale of waste lands under the Korampullum tank, was in August 1885 credited in the treasury accounts under Land Revenue, Miscellaneous. This money should certainly form a credit against the anicut project, and I trust you will be able to recommend to Government that the necessary refund be made from the Land Revenue accounts.

4. The Executive Engineer has sent up the estimate for the inspection bungalow under Extensions and Improvements, but if funds were available it is more correctly a capital charge, and I would recommend its sanction against Capital if this can be done.

ENCLOSURE.

CONSTRUCTING an Inspection Bungalow near Korampullum; amount of estimate, Rs. 1,200.

Report.—The estimate, which was called for by the Executive Engineer in his No. 1316, dated 27th July 1887, provides for constructing a permanent inspection bungalow at Korampullum village adjacent to the large and important tank of that name on which the town of Tuticorin depends for its water-supply during a portion of the year.

2. As Korampullum tank, which is the last one in the chain of tanks supplied by the north main channel from Srívaikuntham anicut, also receives a supply from the Uppár odai, a stream which drains an area of 170 square miles on being subject to the influence of the north-east monsoon comes down suddenly in heavy fresh, placing the tank in great danger of breaching before it can be relieved of the flood waters by means of the Uppár odai dam, &c., so that the tank requires careful watching, and the presence of a Public Works officer or subordinate on the spot at such times is very necessary.

3. Owing to its situation it is difficult to get quickly to the tank except by rail from Tinnevelly to Tuticorin, and as it would take time for tents to come up by road, it is most inconvenient to visit the locality, especially in monsoonish weather; hence the erection of a building to stay in during such inspections is very necessary.

4. A piece of land, 1·20 acres in extent, on a high level and conveniently situated between the road from Palamcottah to Tuticorin and the Tuticorin fresh-water channel, has been selected and arrangements come to with the owners to part with it for Rs. 60. The particulars of the land is given in the accompanying statement.

5. The work will be carried out in accordance with the standard specification.

Materials—

Rough stone from Pudukóta hill, a distance of about 5 miles.
Lime stone chunam do. do.
Tiles and square bricks from Valavallam, a distance of 16 miles.
Teakwood, Palmyrah rafters and Kongu reepers from Tinnevelly, a distance of 30 miles.

(Signed) W. V. BAKER,
Assistant Engineer.

10th December 1887.

Prepared with reference to Superintending Engineer's memorandum, No. 600 T.N., dated 16th November 1887.

(Signed) A. S. RUSSELL,
Executive Engineer.

1st February 1888.

No. 32 I.

Submitted to Government.

2. As the balance of the amount reserved for unforeseen works of the Srívaikuntham anicut project is only Rs. 622, and as the amount of the estimate for the inspection bungalow is less than Rs. 2,500, the limit prescribed for works to be classed under "Revenue Extensions and Improvements," it is recommended that the estimate may be sanctioned under this head, instead of, as suggested by the Superintending Engineer, as a capital charge.

3. With regard to the question raised in paragraph 3 of the Superintending Engineer's letter, it may be noted that the Board of Revenue have recently been requested to state whether there is any objection to the sale-proceeds realised in previous years of the beds of tanks rendered unnecessary by the Kistna delta project being written back from "Land Revenue, Miscellaneous" to the Capital account of the project. Pending receipt of the Board's reply to this reference, no action need be taken on the Superintending Engineer's proposal at present.

CHEPÂK,
23rd February 1888.

(Signed) H. R. MEAD, Colonel, R.E.,
Chief Engineer for Irrigation.

To the Joint Secretary to Government,
Public Works Department, Irrigation Branch.

ORDER—dated 29th February 1888, No. 148 I., Public Works.

The following estimate is sanctioned:—

Irrigation.
42. Major Works (Working Expenses).
Srívaikuntham Anicut System.
Extensions and Improvements.
North Section.
(2). Main Canals and Branches.
K. Buildings.

Constructing an inspection bungalow near Korampullum tank, estimate ... ... Rs. 1,200

2. This sanction has been registered as No. 130 I. of 1887-88.

(True Extract.)

H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, VI Circle, with five enclosures.
" Examiner, Public Works Accounts.
" Revenue Department.

3. The work will be carried out in accordance with the standard specification.

Materials—

Rough stone from Pettah[illegible] hill, a distance of about 6 miles.
Lime from [illegible] do. do.
Tiles and square bricks from Yelavellam, a distance of 15 miles.
Teakwood, Palmyra rafters and [illegible] from [illegible], a distance of 60 miles.

(Signed) W. [illegible],
Assistant Engineer.

[illegible] December 1887.

[illegible] 7. [illegible] N. [illegible]
[illegible] November 1887.

(Signed) [illegible],
Executive Engineer.

[illegible] February 1888.

[illegible]

[illegible] to Government.

[illegible]

[illegible]

(Signed) H. E. MEAD, Colonel, R.E.,
Chief Engineer for Irrigation.

23rd February 1888.

To the Joint Secretary to Government,
Public Works Department, Irrigation Branch.

ORDER—dated 25th February 1888, No. 149 I, Public Works.

The following estimate is sanctioned:—

Irrigation.
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

Constructing [illegible] estimate ... RS. 1,200

2. This estimate has been registered as No. 120 I. of 1887-88.

(True Extract.)

H. E. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
„ Superintending Engineer, VI Circle, with five enclosures.
„ Examiner, Public Works Accounts.
„ Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of (1888) Madras.

PUBLIC WORKS.

Dated February, 29th.

Recd. *Encl.*

G.O., 29th Feb. 1888, No. 148 I.

FEBRUARY.

Inspection Bungalow

Estimate for constructing an — near the Korampullum tank, Srívaikuntham anicut project, sanctioned.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following letter from Colonel H. SMALLEY, R.E., Superintending Engineer, III Circle, to the Chief Engineer for Irrigation, dated Bellary, 3rd February 1888, No. 2240.:—

With reference to your memorandum, No. III 3 K.C., dated 25th January 1888, I have the honor to forward plans and estimate, amounting to Rs. 6,278, for raising the right bank of the Kurnool canal between 143rd mile and 148th mile of the Kurnool canal.

2. The necessity for the work is explained in the report accompanying the estimate.

3. Work has been ordered to be commenced in anticipation of sanction.

REPORT to accompany the estimate for raising the Right Bank of Canal from 143·62 mile near thirty-first Lock to 148·36 mile below Yellala Bridge; amount of estimate, Rs. 6,278.

The canal in this part of its course runs in the valley of the Kondaru, and at a short distance apart (see index map). The right bank of the canal is therefore exposed to river floods, and, being low, is frequently breached. The last breach occurred in 1886, when the water topped the bank in several places, passed over the thirty-second lock into the breach below, and escaped by again breaching the right bank some miles down. During this year the marks of the flood were carefully noted and marked. The late Superintending Engineer on his inspection ordered an estimate to be prepared for raising the bank and fixed the level of the top of the bank at 3 feet above the flood level of 1886 which is the maximum recorded. The accompanying estimate provides for this, and when the work is completed, which ought to be as early as possible, this part of the canal ought to be safe from breaches which, from their almost yearly occurrence, have been a source of great expense and great hindrance to navigation.

(Signed) G. P. CARLESS,
Executive Engineer.

ORDER—dated 29th February 1888, No. 149 I., Public Works.

The following estimate is sanctioned :—

Irrigation.
(42) Major Works (Working Expenses).
Kurnool Canal.
Extensions and Improvements.
(2) Main Canals and Branches.
Fifth Section.
L. Earthwork.

Raising the right bank between 143rd and 148th mile, estimate ... Rs. 6,278.

2. This sanction has been registered as No. 131 I. of 1887-88.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
,, Superintending Engineer, III Circle, with twelve enclosures.
,, Examiner, Public Works Accounts, with duplicate abstract estimate.
,, Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of (1888) Madras.

PUBLIC WORKS.

Dated February, 29th.

Recd. *Encl.*

G.O., 29th Feb. 1888, No. 149 I.

FEBRUARY.

Kurnool Canal

Estimate for raising the right bank between 143rd and 148th mile of the —, sanctioned.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

TABULAR STATEMENT OF MISCELLANEOUS PROCEEDINGS AND MATTERS OF ROUTINE,

IRRIGATION,

FOR THE MONTH OF FEBRUARY 1888.

Subjects.	Number and Date of Order.	Numbers and Dates of previous Orders.
Attivakam Shrotriem tank, Chingleput district.—Proceedings in the Revenue Department regarding repairs to the —, communicated to the Superintending Engineer, V Circle.	3rd Feb. 1888, No. 85 I.	12th Jan. 1888, No. 151 C.
Objectionable Item Statement of the V Circle for October 1887.—Orders on —.	3rd do. do. No. 86 I.	19th Dec. 1887, No. 791 I.
Objectionable Item Statement of the VI Circle for October 1887.—Orders on —.	3rd do. do. No. 87 I.	9th Dec. 1887, No 781 I. 12th Dec. 1887, No. 783 I.
Objectionable Item Statement of the IV Circle for October 1887.—Orders on —.	3rd do. do. No. 88 I.	28th Nov. 1887, No. 743 I. 9th Dec. 1887, No. 779 I.
Objectionable Item Statement of the III Circle for October 1887.—Orders on —.	4th do. do. No. 90 I.	9th Dec. 1887, No. 780 I. 21st Nov. 1887, No. 726 I. 21st Oct. 1887, No. 645 I. 15th Sept. 1887, No. 557 I. 9th Aug. 1887, No. 484 I. 12th July 1887, No. 414 I.
Minor Irrigation Works.—Proceedings of the Board of Revenue reviewing reports on the progress of — up to the end of November 1887, recorded.	4th do. do. No. 91 I.	......
Supply channel.—Proceedings of the Revenue Department approving and sanctioning the Board's recommendation that certain — be transferred to the Chittoor Taluk Board under certain condition, communicated to the Superintending Engineer, V Circle, for information.	4th do. do. No. 92 I.	......

Subjects.	Number and Date of Order.	Numbers and Dates of previous Orders.
Rushikulya Project.—Ordered that a telegram stating that the Government of India has been already telegraphed to for additional allotment of Rs. 25,000 for works establishment and land for — be sent to the Superintending Engineer, I Circle.	4th Feb. 1888, No. 93 I.	......
Budget estimate.—Ordered that the Government of India be addressed by telegraph with regard to the increase of one lakh of rupees to the — of expenditure for the next year under 43, and certain modifications in the current year's revised estimate of expenditure already sanctioned.	4th do. do. No. 94 I.	.....
Budget estimates of the Irrigation Branch for 1888-89. —Orders in the Financial Department on the preliminary issue of the —, recorded.	6th do. do. No. 97 I.	18th Jan. 1888, No. 213 I. 8th Dec. 1887, No. 777 I. 14th Nov. 1887, No. 708 I. 3rd Nov. 1887, No. 682 I. 9th Dec. 1886, No. 3258 W. 3rd Dec. 1886, No. 4297 C. 2nd Dec. 1885, No. 2019 C.
Ariyanayakipuram anicut.—Orders on petition from the ryots of Kandiaperi village praying that the leaks in the — may be closed.	8th do. do. No. 102 I.	......
Erratum in G.O., No. 9 I., dated 6th January 1888, regarding the budget estimates for the Irrigation Branch for 1888-89 in page 3, table in the latter part of paragraph 8, *for* Koryar *read* Kongan.	10th do. do. No. 103 I.	......
Copy of above forwarded to the Government of India.	10th do. do. No. $\frac{103}{A}$ I.	......
Statement of Objectionable Items, Irrigation, Periyár Project, for November 1887.—Orders on the —.	10th do. do. No. 104 I.	......
Statement of Objectionable Items, Irrigation, II Circle, for November 1887.—Orders on the —.	14th do. do. No. 107 I.	7th Feb. 1888, No. 100 I. 17th Dec. 1887, No. 790 I. 3rd Dec. 1887, No. 764 I. 23rd July 1887, No. 440 I.
Irrigation Cess Funds.—Orders in the Revenue Department regarding the expenditure of the balance of — and the collection of the irrigation cess in Salem district for fasli 1297, communicated to the Superintending Engineer, IV Circle.	14th do. do. No. 108 I.	......
Statement of Objectionable Items, Irrigation, IV Circle, for November 1887.—Orders on the —.	17th do. do. No. 111 I.	3rd Feb 1888, No. 88 I. 28th Nov. 1887, No. 743 I. 9th Dec. 1887, No. 779 I. 21st Nov. 1887, No. 725 I.

Subjects.	Number and Date of Order.	Numbers and Dates of previous Orders.
		(*Continued.*) 18th Oct. 1887, No. 640 I. 21st Sept. 1887, No. 565 I. 15th July 1887, No. 419 I. 12th July 1887, No. 1866 W. 21st April 1887, No. 1103 W.
Minor Irrigation Works.—Proceedings of the Board of Revenue distributing the additional allotments sanctioned by Government for repair of — in consequence of monsoon damages, recorded.	17th Feb. 1888, No. 112 I.	......
Special trains and reserved accommodation.—Proceedings of the Public Works Department, Railway Branch, communicating to the Consulting Engineer for Railways, with remarks, circular from the Government of India forwarding rules regarding the grant by the Managers of the State Railways of complimentary —, recorded.	17th do. do. No. 113 I.	......
Dam across Odai Voikal.—The execution by the Public Works Department of the work of reconstructing the — in the Nannilam taluk of the Tanjore division, sanctioned.	17th do. do. No. 115 I.	25th April 1887, No. 1134 W.
Government Irrigation sources.—Proceedings of the Board of Revenue submitting to Government with the Board's recommendation letters from the Collector of Ganjam proposing the omission of the Bavaji tank of the Bellupada village from the list of —, communicated to the Superintending Engineer, I Circle.	17th do. do. No. 116 I.	......
Dowlaishweram Workshops.—Sanctioning the transfer of Rs. 3,000 from the grant given for the — under Tools and Plant, Major Works, to the Godávari Eastern division.	18th do. do. No. 117 I.	16th Jan. 1888, No. 33 I. 18th Nov. 1887, No. 717 I. 29th Aug. 1887, No. 536 I.
Irrigation.—Reminder from the Government of India requesting that very early attention may be given to their letter No. 108 A-I., dated 17th December 1887, inquiring whether any alterations are desired in the proposed expenditure during 1888-89 on sanctioned works under 48, Irrigation Capital Expenditure not charged against Revenue, recorded.	18th do. do. No. 118 I.	26th Jan. 1888, No. 65 I. 5th Jan. 1888, No. 3 I.
Tank bed.—Proceedings of the Revenue Department approving and sanctioning the proposal to sell certain — in the Coimbatore district, communicated to the Superintending Engineer, IV Circle.	18th do. do. No. 119 I.	......
Manufacture of lime.—Orders on letter from the Secretary to the Government of the North-Western Provinces and Oudh forwarding 2 copies of a report on the — by Mr. N. F. Mackenzie, Executive Engineer, Nadrai Aqueduct Division, Lower Ganges Canal.	21st do. do. No. 124 I.	......
Acknowledging receipt of above	21st do. do. No. 125 I.	......

Subjects.	Number and Date of Order.	Numbers and Dates of previous Orders.
Statement of Objectionable Item, Irrigation, I Circle, for October 1887.—Orders on —.	24th Feb. 1888, No. 132 I.	9th Jan. 1888, No. 12 I. 27th Oct. 1887, No. 667 I.
Pogalur channel in the Coimbatore district.—Proceedings in the Revenue Department on certain correspondence regarding repairs to the —, communicated to the Superintending Engineer, IV Circle.	24th do. do. No. 133 I.	27th Jan. 1888, No. 373 C.
Economic condition.—Proceedings of the Revenue Department passing orders on letter from the Collector reporting on the — of the Anantapur district, communicated to officers concerned with remarks.	24th do. do. No. 134 I.	......
Statement of Objectionable Items, Irrigation, VI Circle, for November 1887.—Orders on —.	27th do. do. No. 139 I.	3rd Feb. 1888, No. 87 I. 12th Dec. 1887, No. 783 I.
Statement of Objectionable Items, Irrigation, III Circle, for November 1887.—Orders on —.	29th do. do. No. 140 I.	4th Feb. 1888, No 90 I. 9th Dec. 1887, No. 780 I. 21st Oct. 1887, No. 645 I. 15th Sept. 1887, No. 557 I. 9th Aug. 1887, No. 484 I. 12th July 1887, No. 414 I. 21st Nov. 1887, No. 726 I.
Statement of Objectionable Items, Irrigation, V Circle, for November 1887.—Orders on —.	29th do. do. No. 141 I.	3rd Feb. 1888, No. 86 I. 19th Dec. 1887, No. 791 I. 21st Nov. 1887, No. 724 I. 25th Nov. 1887, No. 742 I. 28th Sept. 1887, No. 578 I. 19th Aug. 1887, No. 517 I.
Monthly appropriation return, Irrigation Branch, for January 1888.—The *nil* statement of unauthorised appropriations to the —, forwarded to the Accountant-General, Public Works Department.	29th do. do. No. 142 I.	24th Jan. 1888, No. 55 I. 19th Jan. 1888, No. 44 I. 22nd Nov. 1887, No. 732 I. 25th Oct. 1887, No. 658 I. 30th Aug. 1887, No. 538 I. 22nd July 1887, No. 437 I. 28th June 1887, Nos. 388-89 I. 21st May 1887, No. 326 I. 26th April 1887, No. 294 I 28th Sept. 1887, No. 576 I.